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**ATMOSPHERIC ENVIRONMENT FOR SPACE SHUTTLE
(STS-41D) LAUNCH**

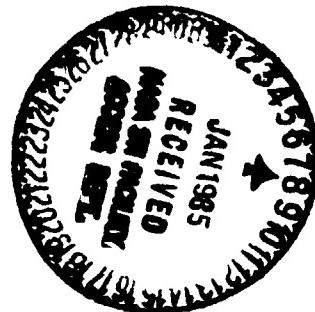
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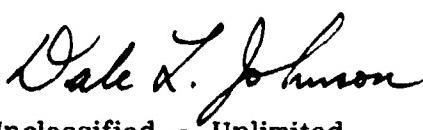


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16. ABSTRACT <p>This report presents a summary of selected atmospheric conditions observed near Space Shuttle STS-41D launch time on August 30, 1984, at Kennedy Space Center, Florida. Values of ambient pressure, temperature, moisture, ground winds, visual observations (cloud), and winds aloft are included. The sequence of prelaunch Jimosphere measured vertical wind profiles is given in this report. Also presented are wind and thermodynamic parameters representative of surface and aloft conditions in the SRB descent/impact ocean area. Final atmospheric tapes, which consist of wind and thermodynamic parameters versus altitude, for STS-41D vehicle ascent and SRB descent/impact have been constructed. The STS-41D ascent meteorological data tape has been constructed by Marshall Space Flight Center's Atmospheric Sciences Division to provide an internally consistent data set for use in post flight performance assessments.</p>			
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TECHNICAL MEMORANDUM

ATMOSPHERIC ENVIRONMENT FOR SPACE SHUTTLE (STS-41D) LAUNCH

I. INTRODUCTION

This report presents an evaluation of the atmospheric environmental data taken during the launch of the Space Shuttle/STS-41D vehicle. This Space Shuttle vehicle was launched from Pad 39A at Kennedy Space Center (KSC), Florida, on a bearing of 91.6 deg east of north at 1242 UT (0842 EDT) on August 30, 1984.

This report presents a summary of the atmospheric environment at launch time ($L+0$) of the STS-41D, together with the sequence of prelaunch Jimosphere measured winds aloft profiles from L-13 hr through liftoff. The general weather situation for the launch and flight area is described, and surface and upper level wind/thermodynamic observations near launch time are given. Surface and upper level wind/thermodynamic parameter estimates are also presented for the SRB descent/impact analyses.

Previous MSFC-related launch vehicle atmospheric environmental conditions have been published as Appendix A of individual MSFC Saturn Flight Evaluation Working Group reports [1]. Office memorandums have been issued for previous flights giving launch pad wind information. A report has also been published [2] which summarizes most launch atmospheric conditions observed for the past 155 MSFC/ABMA-related vehicle launches through SA-208 (Skylab 4). Reports summarizing ASTP and STS-1 through STS-13 launch conditions are presented in References 3 through 14, respectively. Table 1 gives the atmospheric $L+0$ launch conditions for all the Space Shuttle missions.

II. SOURCES OF DATA

Atmospheric observational data used in this report were taken from synoptic maps made by the National Weather Service plus all available surface observations and measurements from around the launch area. Upper air observations were taken from balloon-released instruments sent aloft from Cape Canaveral Air Force Station (CCAFS). High-altitude winds and thermodynamic data were measured by the Super-Loki rocketsondes launched from the CCAFS. Table 2 presents a listing of systems used to obtain the upper level wind profiles used in compiling the final ascent atmospheric data tape. The Redstone ship released omegasonde and Super-Loki rocket data were used in the upper level atmospheric regions for the construction of the final SRB impact/descent atmospheric data tape. Data cutoff altitudes are also given in Table 2.

III. GENERAL SYNOPTIC SITUATION AT LAUNCH TIME

A cold front extended southward from Canada to a low pressure center over Michigan. The cold front continued southwestward through the Ohio Valley, Missouri and Kansas. The front became stationary over the Rockies.

High pressure prevailed over the southeast and was centered over southwest Georgia. Light and northerly surface winds dominated most of Florida and moderate temperatures were the rule at launch time.

Figure 1 presents the surface map conditions approximately 42 minutes before STS-41D launch. Figure 2 depicts winds aloft conditions at the 500 mb pressure level approximately 42 minutes before launch. Weak westerly winds prevailed aloft over the KSC Florida area.

There were patches of shallow ground fog over north and central Florida. But for the most part skies were generally clear with cloud cover less than three-tenths.

Figure 3 presents the GOES-5 infrared southeast U.S. cloud picture taken just prior to launch (1230 UT). Figure 4 shows an up-close visible shot of the Florida peninsula as recorded by GOES-5, taken at 1230 UT.

IV. SURFACE OBSERVATIONS AT LAUNCH TIME

Surface observations at launch time for selected KSC locations are given in Table 3. Included are pad 39A, shuttle runway, and CCAFS balloon release station observations. Neither precipitation nor lightning was observed at launch time.

Table 4 presents PAD 39A wind data along with other standard hourly atmospheric measurements and sky observations for the 6-hr period prior to launch of STS-41D. Value for wind speed and direction are given for the 84 m (275 ft) FSS reference level and 18 m (60 ft) pad light pole level.

V. UPPER AIR MEASUREMENTS DURING LAUNCH

The FPS-16 Jimsphere (1257 UT), MSS Rawinsonde (1242 UT), Super-Loki Rocketsonde (1454 UT), and Super-Loki Robin (1354 UT) systems were used to measure the upper level wind and thermodynamic parameters for STS-41D launch. At altitudes above the rocket-measured data, the Global Reference Atmosphere (GRA) [15] parameters for August KSC conditions were used. A tabulation of the STS-41D final atmospheric data for ascent is presented in Table 5 which lists the wind and thermodynamic parameters versus altitude. A brief summary of parameters is given in the following paragraphs.

A. Wind Speed

At launch time, wind speeds were light (3.0 ft/sec) at 60 ft and increased to a maximum of 44 ft/sec (26 kn) blowing from 270 deg. This maximum occurred at an altitude of 40,300 ft (12,283 m). The winds then decreased near the tropopause and increased in magnitude as shown in Figure 5. The overall maximum measured speed was 168 ft/sec (99 kn) at 191,000 ft (58,217 m) altitude.

B. Wind Direction

At launch time, the 60-ft wind direction was from the east-southeast (106 deg) and shifted through the south to a westerly component above 3,300 ft (1006 m). Winds remained westerly throughout most of the upper troposphere and lower stratosphere to 60,000 ft (18,288 m) where the summer easterlys prevailed throughout most of the mesosphere. Figure 5 shows the complete wind direction versus altitude profile. As shown in Figure 5, wind direction became quite variable at altitudes with low wind speeds.

C. Prelaunch/Launch Wind Profiles

Prelaunch/launch wind profiles presented in Figures 6 through 9 were measured by the Jimisphere FPS-16 system. Data are shown for four measurement periods beginning at L-13 hr and extending through L+0.

The wind speed and direction profiles for the 13-hr period prior to and including L+0 are shown in Figures 6 and 7. The in-plane (head-tail wind) and out-of-plane (left-right crosswind) profiles are given on Figures 8 and 9. The wind speeds and in-plane component speeds were greater than the August means but less than the 95 percent values within the 30,000 ft to 50,000 ft altitude layer. The out-of-plane component speeds were approximately equal to the mean values. No ascent load exceedences were calculated. The prelaunch atmospheric conditions are discussed in more detail in Section III.

D. Thermodynamic Data

The thermodynamic data taken at STS-41D launch time, consisting of atmospheric temperature, dew-point temperature, pressure, and density have been compiled as the STS-41D ascent atmospheric data and are presented in Table 5. The associated thermodynamic data taken in support of the SRB descent have also been assembled as the STS-41D SRB descent/impact atmospheric data and are presented in Table 6. The vertical structure of temperature for the STS-41D ascent and for the SRB descent is shown graphically versus altitude in Figure 10.

The atmospheric thermodynamic parameters of temperature, pressure, and density, measured during STS-41D launch below 183,000 ft (55,778 m) were all within 5 percent of their respective PRA-63 [16] annual values. All these parameters stayed within 14 percent of their respective PRA-63 values, at all levels of measurement.

E. SRB Upper Air and Surface Measurements

As has been mentioned in earlier paragraphs, an SRB descent atmospheric data tape has also been constructed which consists of data taken from the Omegasonde-Rawinsonde system (1613 UT) aboard the USNS Redstone, which was stationed off the coast in the Atlantic Ocean. The CCAFS measured Super-Loki rocketsonde data and the GRA model data were used at altitude levels above the measured Omegasonde data. The tabular values for the SRB descent meteorological tape are presented in Table 6, with wind speed and direction profiles presented in Figure 11. Figure 10 gives the vertical temperature profile.

The surface-ship atmospheric and oceanographic observations taken close to STS-41D SRB impact are presented in Table 7.

TABLE 1. SELECTED ATMOSPHERIC OBSERVATIONS FOR THE FLIGHT TESTS OF THE SPACE SHUTTLE VEHICLES

Vehicle Data		Surface Observations						Inflight Conditions				Count Down and Launch Comments of Meteorological Significance
Seq. No.	Vehicle No.	Launch Date	Time (EST) Nearest Minute	Launch Pad	Press. ^c N/cm ²	Temp. ^c °C	Rel. Hum. (%)	Wind ^b	Max. Wind Below 60,000 ft	Spd (ft/sec)	Dir. (deg)	
1	STS-1 Columbia	4/12/81	0700	39A	10.234 ^d	21	82	11.8	125	44,300	98	250
2	STS-2 Columbia	11/12/81	1010	39A	10.166	23	61	15.2	120	345	36,300	158
3	STS-3 Columbia	3/22/82	1100	39A	10.160	24	71	27.0	355	45,000	119	250
4	STS-4 Columbia	6/27/82	1100 ^f	39A	10.200	29	70	7.0 ^e	133 ^f	47,900	37	329
5	STS-5 Columbia	11/11/82	0719	39A	10.227	22	68	22.0	90	40,600	146	336
6	STS-6 Challenger	4/4/83	1330	39A	10.183	23	55	35.0	90	46,100	155	277
7	STS-7 Challenger	6/18/83	0733 ^f	39A	10.146	25	80	16.4	5.9 ^e	45,900	76	278
8	STS-8 Challenger	8/30/83	0232 ^f	39A	10.111	24	97	10.3 ^e	350 ^e	45,100	30	349
9	STS-9 (SL-1) Columbia	11/28/83	1100	39A	10.153	24	83	14.0	268	183	47,100	117
10	STS-11 (41-B) Challenger	2/3/84	0800	39A	10.173	17	75	32.0	190	38,200	NA	288
11	STS-13 (41-C) Challenger	4/6/84	0858	39A	10.149	16	56	18.6	275	37,700	NA	289
12	STS-41D Discovery	8/30/84	0842 ^f	39A	10.172	26	81	3.0	275	40,300	44	270

Pad 39A thermodynamic measurements taken at approximately 1.2 m (4 ft) above natural grade at camera site No. 3.

b. 1 min average prior to L₀ of 60 ft PLP (listed first) and 275 ft FSS winds measured above natural grade.

Progress measurement annulsable to 21 ft above MSI unless otherwise indicated

e. Because treatment is not available to all above M

d. Pressure measurement applies

TABLE 2. SYSTEMS USED TO MEASURE UPPER AIR WIND DATA FOR STS-41D ASCENT*

Type of Data	Date: August 30, 1984		Portion of Data Used		
	Release Time	Start	Time After L+0 (min)	Altitude m (ft)	End
FPS-16 Jimsphere	12:57	15	6 (21)	15	17,374 (57,000)
MSS Rawinsonde	12:42	0	17,678 (58,000)	58	29,870 (98,000)
Super-Loki Rocketsonde (Datasonde)	14:54	132	62,179 (204,000)	132	30,175 (99,000)
Super-Loki Rocketsonde (Robin)	13:54	72	83,515 (274,000)	72	62,484 (205,000)
Omegasonde-Rawinsonde*	16:13	211	9 (28)	211	29,870 (98,000)

* The Omegasonde-Rawinsonde was released from the USNS Redstone to measure the upper atmosphere for SRB descent/impact analyses.

TABLE 3. SURFACE OBSERVATIONS AT STS-41D LAUNCH TIME

Location ^a	Time After L+0 (min)	Pressure (MSL N/cm ² (psia)	Temperature °K (°F)	Dew Point °K (°F)	Relative Humidity (%)	Visibility km (miles)	Sky Cover		Wind		
							Cloud** Amount	Cloud Type	Height of Base Meters ('ft)	Speed ft/sec (kt)	Direction (deg)
NASA Space Shuttle Runway X68e Winds Measured at 10.4 m (34 ft)	0	10.183 (14.769)	300.4 (81.0)	296.5 (74.0)	80	16 (10)	1	Cumulus Alto-Cirrus	610 (2,000) 1,239 (4,000) 9,144 (30,000)	1.7 (1.0)	090
CCAFS XNRC ^c Surface Measurements	0	10.176 (14.759) _f	299.8 (80.0)	296.5 (74.0)	82	16 (10)	1	Cumulo-Nimbus Alto-Cumulus Cirrus	457 (1,500) 3,050 (10,000) 9,150 (30,000)	0.0 (0.0)	0
Pad 39A ^d Lightpole SE 18.3 m (60.0 ft)	0	10.172* (14.753)*	299.4 (79.2)	295.9 (72.9)	81	-	-	-	-	3.0 ^b (1.8)	106 ^b
Pad 39A FSS (Top-SE) 83.8 m (275 ft)	0	-	-	-	-	-	-	-	-	3.6 ^b (2.1)	039 ^b

* Pad 39A Camera Site 3 barometric pressure instrument is located at approximately 21 ft above MSL. Sea level pressure was 10.180 N/cm².

** 3/10 total sky cover a: X68 and 2/10 at CCAFS.

- a. Altitudes of measurements are above natural grade, except where noted.
- b. Approximately 1 min average prior to L+0.
- c. Balloon release site.
- d. Pad 39A thermodynamic measurements are taken at camera site No. 3, approximately 6.4 m (21 ft) above MSL.
- e. Official STS-41D sky observational site.

TABLE 4. STS-41D PRE-LAUNCH THROUGH LAUNCH KSC PAD 39A ATMOSPHERIC MEASUREMENTS^a

30 August 1984 Time UT	Temp. (°F)	Hourly Atmospheric Measurements						Sky Condition ^b		
		275' Level (SE)		60' Level (SE)		Clouds		Total Sky Cover	Vis. (mi)	Other Remarks
	Dew Point (°F)	RH (%)	WS Kt	WD ^c	WS Kt	WD ^c				
0700	77	72	84	6	183	2	177	Scattered at 2,500 ft	1/10	7
0800	76	71	84	3	94	3	79	Clear Skys	0/10	7
0900	76	72	87	7	155	3	145	Clear Skys	0/10	10
1000	76	72	88	2	190	0	0	Scattered at 1,500 ft Scattered at 8,000 ft	1/10	9
1100	75	72	91	2	270	0	0	Scattered at 1,500 ft Scattered at 8,000 ft Scattered at 30,000 ft	3/10	6
1200	77	72	85	0	0	0	0	Scattered at 2,000 ft Scattered at 8,000 ft Scattered at 30,000 ft	3/10	7
L+0 ^c	79	73	81	2	39	2	106	1/10 CU at 2,000 ft 0/10 SC at 4,000 ft 3/10 CI at 30,000 ft	3/10	10

a. Hourly pad observations (obtained via MSFC/HOSC) averaged over 1 min, centered on the hour.

b. Sky observations taken at the Shuttle runway site X68.

c. L+0 PAD Wind and thermodynamic parameters obtained from HOSC strip charts. SE Anemometers used at 60 and 275 ft levels for L+0 wind conditions (approximately 1 min average prior to L+0). Pad 39A L+0 atmospheric pressure, at 21 ft (MSL), was 10.172 N/cm². Sea level pressure was 10.180 N/cm².

TABLE 5. STS-41D FINAL ASCENT ATMOSPHERIC TAPE LISTING

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ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (IN. Hg BARS)	DENSITY (GRAINS/M3)	DEW POINT (DEG C)
000021	001	111	26.2	.1617+04	.1172+04	22.3
000100	003	094	26.3	.1014+04	.1169+04	22.3
000200	203	267	25.7	.1011+04	.1166+04	22.2
000300	303	046	25.5	.1007+04	.1163+04	22.2
000400	001	116	25.2	.1004+04	.1167+04	22.2
000500	251	118	25.3	.1000+04	.1157+04	22.2
000600	901	121	24.7	.9970+03	.1154+04	22.1
000700	301	124	24.5	.9936+03	.1151+04	22.1
000800	301	127	24.2	.9902+03	.1148+04	22.1
000900	001	132	24.0	.9877+03	.1145+04	22.0
001000	001	139	23.7	.9853+03	.1142+04	22.0
001100	203	145	23.5	.9799+03	.1139+04	21.8
001200	300	153	23.3	.9765+03	.1136+04	21.7
001300	300	164	23.1	.9731+03	.1133+04	21.5
001400	300	176	22.9	.9697+03	.1130+04	21.3
001500	000	189	22.8	.9654+03	.1127+04	21.2
001600	000	201	22.5	.9630+03	.1123+04	21.0
001700	003	211	22.4	.9597+03	.1120+04	20.8
001800	000	223	22.2	.9564+03	.1117+04	20.6
001900	300	227	22.7	.9530+03	.1114+04	20.5
002000	300	233	21.8	.9497+03	.1111+04	20.3
002100	001	239	21.6	.9464+03	.1108+04	19.9
002200	001	241	21.4	.9431+03	.1105+04	19.6
002300	301	245	21.2	.9378+03	.1102+04	19.2
002400	001	247	21.0	.9355+03	.1099+04	18.9
002500	301	249	20.7	.9332+03	.1096+04	18.5
002600	001	261	20.7	.9310+03	.1093+04	18.1
002700	301	253	20.5	.9267+03	.1090+04	17.8
002800	301	254	20.3	.9235+03	.1087+04	17.4
002900	001	255	20.1	.9203+03	.1085+04	17.1
003000	001	256	19.9	.9170+03	.1082+04	16.7
003100	001	257	19.7	.9138+03	.1079+04	16.3
003200	001	259	19.5	.9106+03	.1076+04	15.9
003300	001	259	19.3	.9074+03	.1073+04	15.4
003400	301	260	19.1	.9042+03	.1070+04	15.0
003500	001	261	19.1	.9010+03	.1067+04	14.6
003600	301	261	18.9	.8978+03	.1064+04	14.2
003700	001	261	18.5	.8947+03	.1061+04	13.8
003800	302	262	18.4	.8915+03	.1059+04	13.3
003900	301	262	18.2	.8884+03	.1055+04	12.9
004000	302	263	18.0	.8852+03	.1053+04	12.5
004100	302	263	17.9	.8821+03	.1050+04	12.3
004200	002	264	17.7	.8798+03	.1046+04	12.2
004300	002	264	17.5	.8777+03	.1043+04	12.0
004400	302	264	17.3	.8756+03	.1040+04	11.8
004500	302	264	17.2	.8696+03	.1037+04	11.7
004600	302	264	17.0	.8665+03	.1034+04	11.5
004700	302	265	16.9	.8635+03	.1031+04	11.3
004800	302	265	16.6	.8604+03	.1028+04	11.1
004900	302	265	16.5	.P573+03	.1025+04	11.0

TABLE 5. (Continued)

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ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
005000	002	265	16.3	.8543+0.3	.1022+0.4	10.8
005100	002	266	16.1	.9512+0.3	.1019+0.4	10.8
005200	002	266	15.9	.8482+0.3	.1017+0.4	10.7
005300	003	266	15.6	.8452+0.3	.1014+0.4	10.6
005400	003	266	15.4	.8421+0.3	.1011+0.4	10.6
005500	003	266	15.2	.8391+0.3	.1008+0.4	10.5
005600	003	266	15.0	.8361+0.3	.1005+0.4	10.5
005700	003	267	14.8	.8331+0.3	.1002+0.4	10.5
005800	003	267	14.5	.8302+0.3	.9995+0.3	10.4
005900	003	267	14.3	.8272+0.3	.9967+0.3	10.4
006000	003	267	14.1	.8242+0.3	.9939+0.3	10.3
006100	005	279	13.8	.8213+0.3	.9911+0.3	10.2
006200	005	254	13.6	.8183+0.3	.9884+0.3	10.2
006300	007	237	13.3	.8154+0.3	.9857+0.3	10.1
006400	008	246	13.1	.8124+0.3	.9830+0.3	10.0
006500	011	249	12.8	.8095+0.3	.9803+0.3	10.0
006600	009	230	12.6	.8066+0.3	.9777+0.3	9.9
006700	009	242	12.3	.8037+0.3	.9750+0.3	9.8
006800	009	222	12.1	.8008+0.3	.9724+0.3	9.7
006900	007	239	11.8	.7979+0.3	.9697+0.3	9.7
007000	008	255	11.6	.7950+0.3	.9671+0.3	9.6
007100	007	240	11.3	.7921+0.3	.9645+0.3	9.5
007200	007	269	11.1	.7892+0.3	.9620+0.3	9.0
007300	008	257	10.8	.7864+0.3	.9595+0.3	8.7
007400	006	236	10.6	.7835+0.3	.9569+0.3	8.4
007500	007	263	10.3	.7807+0.3	.9544+0.3	8.1
007600	009	251	10.0	.7778+0.3	.9519+0.3	7.9
007700	006	244	9.8	.7750+0.3	.9494+0.3	7.6
007800	008	270	9.5	.7722+0.3	.9469+0.3	7.3
007900	007	256	9.3	.7694+0.3	.9444+0.3	7.0
008000	003	244	9.0	.7666+0.3	.9419+0.3	6.7
008100	006	282	9.0	.7638+0.3	.9389+0.3	5.5
008200	005	213	8.9	.7610+0.3	.9359+0.3	5.4
008300	004	255	8.9	.7582+0.3	.9329+0.3	5.2
008400	008	275	8.8	.7554+0.3	.9299+0.3	5.0
008500	009	270	8.8	.7526+0.3	.9269+0.3	4.9
008600	008	261	8.8	.7499+0.3	.9239+0.3	4.3
008700	011	281	8.7	.7471+0.3	.9204+0.3	4.5
008800	016	282	8.7	.7444+0.3	.9178+0.3	4.7
008900	013	276	8.6	.7417+0.3	.9147+0.3	4.8
009000	014	285	8.6	.7390+0.3	.9117+0.3	5.0
009100	017	279	8.6	.7362+0.3	.9085+0.3	5.7
009200	017	272	8.5	.7335+0.3	.9054+0.3	6.4
009300	018	277	8.5	.7308+0.3	.9022+0.3	7.1
009400	020	262	8.5	.7281+0.3	.8991+0.3	7.8
009500	019	277	8.5	.7255+0.3	.8960+0.3	6.4
009600	018	281	8.4	.7228+0.3	.8928+0.3	7.1
009700	016	291	8.4	.7202+0.3	.8897+0.3	7.8
009800	019	292	8.1	.7175+0.3	.8866+0.3	10.5
009900	011	277	8.1	.7149+0.3	.8835+0.3	11.2

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
0100000	015	277	8.3	.7122+03	.8804+03	-11.9
0101000	017	285	8.3	.7096+03	.8774+03	-12.1
0102000	018	275	8.2	.7070+03	.8743+03	-12.4
0103000	014	274	8.1	.7044+03	.8713+03	-12.6
0104000	013	270	8.1	.7018+03	.8682+03	-12.8
0105000	012	266	8.0	.6992+03	.8652+03	-13.0
0106000	021	279	8.2	.6967+03	.8622+03	-13.3
0107000	020	278	8.0	.6941+03	.8597+03	-13.5
0108000	013	273	7.9	.6915+03	.8562+03	-13.7
0109000	011	266	7.9	.6890+03	.8532+03	-14.0
0110000	014	268	7.9	.6865+03	.8502+03	-14.2
0111000	013	257	7.7	.6839+03	.8475+03	-14.2
0112000	010	244	7.5	.6814+03	.8448+03	-14.2
0113000	010	264	7.4	.6799+03	.8421+03	-14.2
0114000	011	262	7.2	.6764+03	.8398+03	-14.2
0115000	010	248	7.1	.6739+03	.8367+03	-14.2
2116000	008	297	7.0	.6714+03	.8340+03	-14.3
0117000	010	247	6.8	.6689+03	.8314+03	-14.3
0118000	009	226	6.7	.6664+03	.8287+03	-14.3
0119000	007	235	6.5	.6640+03	.8261+03	-14.3
0120000	008	257	6.4	.6615+03	.8234+03	-14.3
0121000	008	247	6.2	.6591+03	.8210+03	-14.3
0122000	008	269	6.0	.6566+03	.8186+03	-14.3
0123000	012	278	5.7	.6542+03	.8161+03	-14.6
0124000	009	270	5.5	.6517+03	.8137+03	-14.6
0125000	008	308	5.3	.6493+03	.8113+03	-14.6
0126000	010	298	5.1	.6469+03	.8089+03	-14.6
0127000	008	294	4.9	.6445+03	.8065+03	-14.6
0128000	008	309	4.6	.6421+03	.8041+03	-14.6
0129000	012	309	4.4	.6397+03	.8018+03	-14.6
0130000	009	299	4.2	.6374+03	.7994+03	-14.6
0131000	009	302	4.0	.6350+03	.7970+03	-14.6
0132000	011	303	3.8	.6326+03	.7946+03	-14.6
0133000	011	287	3.6	.6302+03	.7922+03	-14.6
0134000	010	289	3.4	.6279+03	.7898+03	-14.6
0135000	013	294	3.2	.6255+03	.7874+03	-14.6
0136000	014	285	2.9	.6232+03	.7850+03	-14.6
0137000	013	287	2.7	.6208+03	.7827+03	-14.7
0138000	014	291	2.5	.6185+03	.7803+03	-14.7
0139000	011	279	2.3	.6047+03	.7780+03	-10.5
0140000	015	281	2.1	.6162+03	.7766+03	-10.5
0141000	015	287	1.9	.6139+03	.7756+03	-10.5
0142000	016	284	1.7	.6116+03	.7733+03	-10.6
0143000	013	291	1.5	.6093+03	.7710+03	-10.6
0144000	014	274	1.3	.6070+03	.7686+03	-10.6
0145000	016	283	1.1	.6047+03	.7663+03	-10.6
0146000	013	288	1.1	.6024+03	.7647+03	-10.6
0147000	010	277	.9	.6001+03	.7617+03	-10.6
0148000	011	292	.6	.5979+03	.7595+03	-10.6
0149000	012	283	.4	.5956+03	.7572+03	-10.6
			.2	.5914+03	.7547+03	-10.6

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OF POOR QUALITY

TABLE 5. (Continued)

ALTIMETER IFT/SFC,	WIND SPEED (INCH) 1 FT/SFC,	WIND DIRECTION (DEG)	TEMPERATURE (INCH C.)	PRESSURE (IN MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C.)
015000	285	-3	.5	.5911+03	.7526+03	-11.1
015100	286	-2	.2	.5899+03	.7533+03	-11.3
015200	279	-3	.5	.5866+03	.7479+03	-11.6
015300	273	-5	.5	.5844+03	.7456+03	-11.8
015400	282	-7	.5	.5822+03	.7432+03	-12.1
015500	274	-8	.5	.5800+03	.7409+03	-12.3
015600	279	-1.2	.5	.5776+03	.7376+03	-12.6
015700	281	-1.2	.5	.5756+03	.7362+03	-12.8
015800	272	-1.4	.5	.5734+03	.7339+03	-13.1
015900	251	-1.5	.5	.5712+03	.7316+03	-13.3
016000	245	-1.7	.5	.5691+03	.7293+03	-13.6
016100	243	-1.9	.5	.5668+03	.7270+03	-13.7
016200	239	-2.1	.5	.5647+03	.7248+03	-13.9
016300	244	-2.3	.5	.5626+03	.7226+03	-14.0
016400	231	-2.5	.5	.5604+03	.7203+03	-14.1
016500	239	-2.7	.5	.5583+03	.7181+03	-14.2
016600	257	-2.9	.5	.5561+03	.7159+03	-14.4
016700	238	-3.1	.5	.5540+03	.7137+03	-14.5
016800	247	-3.3	.5	.5519+03	.7115+03	-14.6
016900	268	-3.5	.5	.5498+03	.7093+03	-14.6
017000	262	-3.7	.5	.5477+03	.7071+03	-14.9
017100	281	-3.9	.5	.5456+03	.7049+03	-14.9
017200	274	-4.1	.5	.5435+03	.7028+03	-15.0
017300	264	-4.3	.5	.5414+03	.7006+03	-15.0
017400	283	-4.5	.5	.5393+03	.6984+03	-15.1
017500	276	-4.7	.5	.5372+03	.6962+03	-15.1
017600	276	-4.9	.5	.5351+03	.6941+03	-15.2
017700	294	-5.1	.5	.5331+03	.6919+03	-15.2
017800	282	-5.3	.5	.5310+03	.6897+03	-15.3
017900	289	-5.5	.5	.5290+03	.6876+03	-15.3
018000	292	-5.7	.5	.5269+03	.6855+03	-15.4
018100	277	-5.9	.5	.5249+03	.6834+03	-15.5
018200	275	-6.2	.5	.5229+03	.6814+03	-15.5
018300	283	-6.4	.5	.5208+03	.6793+03	-15.6
018400	272	-6.7	.5	.5186+03	.6771+03	-15.7
018500	273	-6.7	.5	.5168+03	.6753+03	-15.7
018600	290	-7.1	.5	.5148+03	.6733+03	-15.8
018700	285	-7.4	.5	.5128+03	.6713+03	-15.9
018800	292	-7.6	.5	.5108+03	.6693+03	-16.0
018900	291	-7.9	.5	.5088+03	.6673+03	-16.0
019000	281	-8.1	.5	.5068+03	.6653+03	-16.1
019100	287	-8.3	.5	.5049+03	.6632+03	-16.5
019200	287	-8.5	.5	.5029+03	.6612+03	-16.8
019300	277	-8.7	.5	.5009+03	.6591+03	-17.2
019400	292	-8.2	.5	.4989+03	.6571+03	-17.5
019500	286	-9.1	.5	.4970+03	.6551+03	-17.9
019600	277	-9.4	.5	.4950+03	.6530+03	-18.3
019700	287	-9.6	.5	.4931+03	.6510+03	-18.6
019800	283	-9.8	.5	.4912+03	.6491+03	-19.0
019900	276	-10.3	.5	.4903+03	.6471+03	-19.3

TABLE 5. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
020000	012	287	-10.2	.4873+03	.6450+03	-19.7
020100	013	283	-10.3	.4854+03	.6429+03	-20.3
020200	012	273	-10.5	.4835+03	.6407+03	-20.9
020300	010	264	-10.6	.4816+03	.6386+03	-21.4
020400	012	255	-10.8	.4797+03	.6365+03	-22.0
020500	013	256	-10.9	.4778+03	.6343+03	-22.6
020600	011	278	-11.1	.4759+03	.6322+03	-23.2
020700	013	269	-11.2	.4740+03	.6301+03	-23.8
020800	011	265	-11.4	.4722+03	.6280+03	-24.3
020900	015	269	-11.5	.4703+03	.6259+03	-24.9
021000	015	265	-11.7	.4684+03	.6238+03	-25.5
021100	018	276	-11.9	.4666+03	.6218+03	-25.7
021200	012	276	-12.1	.4647+03	.6197+03	-25.8
021300	017	282	-12.2	.4629+03	.6177+03	-26.0
021400	020	284	-12.4	.4611+03	.6157+03	-26.2
021500	019	286	-12.6	.4592+03	.6137+03	-26.3
021600	021	291	-12.8	.4574+03	.6117+03	-26.5
021700	019	284	-13.0	.4556+03	.6096+03	-26.7
021800	017	287	-13.1	.4538+03	.6077+03	-26.9
021900	016	282	-13.3	.4520+03	.6057+03	-27.0
022000	015	281	-13.5	.4502+03	.6037+03	-27.2
022100	016	282	-13.6	.4484+03	.6016+03	-27.3
022200	016	286	-13.8	.4466+03	.5996+03	-27.5
022300	016	294	-13.9	.4448+03	.5975+03	-27.6
022400	017	292	-14.1	.4430+03	.5955+03	-27.7
022500	016	294	-14.3	.4413+03	.5934+03	-27.8
022600	017	280	-14.4	.4395+03	.5914+03	-28.0
022700	017	278	-14.5	.4376+03	.5894+03	-28.1
022800	019	275	-14.7	.4360+03	.5874+03	-28.2
022900	019	272	-14.8	.4343+03	.5854+03	-28.4
023000	021	277	-15.0	.4325+03	.5834+03	-28.5
023100	020	276	-15.2	.4306+03	.5815+03	-28.6
023200	023	276	-15.4	.4290+03	.5797+03	-28.7
023300	022	272	-15.6	.4273+03	.5778+03	-28.7
023400	021	273	-15.8	.4256+03	.5759+03	-28.8
023500	020	274	-16.0	.4239+03	.5741+03	-28.9
023600	017	272	-16.3	.4222+03	.5722+03	-29.0
023700	019	276	-16.5	.4205+03	.5704+03	-29.1
023800	017	268	-16.7	.4188+03	.5686+03	-29.1
023900	018	274	-16.9	.4171+03	.5668+03	-29.2
024000	016	268	-17.1	.4154+03	.5650+03	-29.3
024100	017	274	-17.3	.4137+03	.5632+03	-29.3
024200	016	263	-17.6	.4120+03	.5614+03	-29.3
024300	016	264	-17.8	.4104+03	.5597+03	-29.3
024400	014	263	-18.1	.4087+03	.5579+03	-29.3
024500	015	267	-18.3	.4071+03	.5562+03	-29.3
024600	016	271	-18.5	.4054+03	.5545+03	-29.2
024700	016	268	-18.8	.4038+03	.5527+03	-29.2
024800	017	272	-19.0	.4021+03	.5510+03	-29.2
024900	016	266	-19.3	.4005+03	.5493+03	-29.2

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TABLE 5. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (IN. OF MARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
025200	016	270	-19.5	.3949+03	.5475+03	-29.2
025100	016	272	-19.7	.3972+03	.5458+03	-29.2
025200	016	271	-20.0	.3956+03	.5461+03	-29.1
025300	017	279	-20.2	.3940+03	.5423+03	-29.0
025400	016	272	-20.4	.3924+03	.5406+03	-29.0
025500	016	279	-20.6	.3908+03	.5389+03	-29.0
025600	017	274	-20.9	.3892+03	.5371+03	-28.9
025700	019	279	-21.1	.3876+03	.5354+03	-28.9
025800	022	287	-21.3	.3860+03	.5337+03	-28.9
025900	023	280	-21.6	.3844+03	.5320+03	-28.8
026000	029	281	-21.8	.3828+03	.5303+03	-28.8
026100	028	280	-22.0	.3813+03	.5285+03	-28.9
026200	027	282	-22.2	.3797+03	.5268+03	-29.0
026300	030	285	-22.4	.3781+03	.5250+03	-29.1
026400	029	282	-22.6	.3766+03	.5231+03	-29.2
026500	030	286	-22.8	.3750+03	.5215+03	-29.3
026600	029	284	-23.0	.3735+03	.5198+03	-29.4
026700	029	284	-23.2	.3719+03	.5181+03	-29.5
026800	031	284	-23.4	.3704+03	.5163+03	-29.6
026900	029	282	-23.6	.3688+03	.5146+03	-29.7
027000	032	285	-23.8	.3673+03	.5129+03	-29.8
027100	031	284	-24.0	.3658+03	.5113+03	-30.2
027200	031	286	-24.3	.3643+03	.5096+03	-30.6
027300	033	287	-24.5	.3627+03	.5080+03	-31.0
027400	030	286	-24.7	.3612+03	.5063+03	-31.0
027500	031	290	-24.9	.3597+03	.5047+03	-31.8
027600	031	288	-25.2	.3582+03	.5031+03	-32.1
027700	027	280	-25.4	.3567+03	.5014+03	-32.7
027800	031	284	-25.6	.3553+03	.4998+03	-33.1
027900	032	288	-25.9	.3538+03	.4982+03	-33.5
028000	031	279	-26.1	.3523+03	.4966+03	-33.9
028100	034	277	-26.3	.3508+03	.4949+03	-34.4
028200	033	273	-26.5	.3493+03	.4932+03	-34.9
028300	032	273	-26.7	.3479+03	.4915+03	-35.4
028400	032	273	-26.9	.3464+03	.4898+03	-35.9
028500	031	269	-27.0	.3450+03	.4882+03	-36.3
028600	030	274	-27.2	.3435+03	.4865+03	-36.8
028700	030	267	-27.4	.3421+03	.4848+03	-37.3
028800	030	270	-27.6	.3406+03	.4832+03	-37.8
028900	031	270	-27.8	.3392+03	.4815+03	-38.3
029000	029	266	-28.0	.3378+03	.4799+03	-38.6
029100	031	271	-28.2	.3363+03	.4783+03	-39.0
029200	029	268	-28.4	.3349+03	.4767+03	-39.3
029300	030	274	-28.7	.3335+03	.4751+03	-39.5
029400	030	272	-28.9	.3321+03	.4735+03	-39.8
029500	029	273	-29.1	.3301+03	.4719+03	-40.0
029600	030	281	-29.3	.3291+03	.4704+03	-40.2
029700	229	281	-29.5	.3279+03	.4688+03	-40.5
029800	327	285	-29.6	.3265+03	.4672+03	-40.7
029900	170	280	-30.	.3251+03	.4657+03	-41.0

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG. C.)	PRESSURE (IN. OF MERCURY)	DENSITY (G.P.AM/M3)	NEW POINT (DEG. C.)
030000	031	267	-10.2	3237+03	4661+03	-41.2
030100	027	289	-10.4	3224+03	4625+03	-41.5
030200	028	297	-10.6	3210+03	4610+03	-41.9
030300	028	300	-10.8	3196+C3	4594+03	-42.2
030400	025	300	-11.0	3182+03	4578+C3	-42.5
030500	025	306	-11.2	3169+03	4563+03	-42.8
030600	026	303	-11.4	3155+03	4547+03	-43.2
030700	023	301	-11.5	3142+03	4532+03	-43.5
030800	025	306	-11.9	3128+03	4516+C3	-43.8
030900	024	301	-12.1	3115+C3	4501+03	-44.2
031000	023	303	-12.3	3102+C3	4486+03	-44.5
031100	024	307	-12.5	3098+03	4471+03	-44.8
031200	024	300	-12.8	3075+03	4456+03	-45.1
031300	024	300	-13.0	3062+03	4442+03	-45.4
031400	025	304	-13.1	3048+03	4427+03	-45.7
031500	025	297	-13.5	3035+03	4413+03	-45.9
031600	024	301	-13.9	3022+03	4398+03	-46.2
031700	027	302	-14.0	3009+03	4384+03	-46.5
031800	028	297	-14.3	2996+03	4370+03	-46.8
031900	025	298	-14.5	2993+03	4355+03	-47.1
032000	028	299	-14.8	2970+03	4341+03	-47.4
032100	027	295	-15.1	2957+03	4327+03	-47.5
032200	025	296	-15.3	2945+03	4313+03	-47.8
032300	025	299	-15.6	2932+03	4299+03	-47.2
032400	024	292	-15.8	2919+03	4284+03	-47.5
032500	024	295	-16.1	2906+03	4270+03	-47.8
032600	026	296	-16.4	2894+03	4257+03	-47.5
032700	024	294	-16.6	2881+03	4243+03	-47.8
032800	023	292	-16.9	2868+03	4229+03	-48.0
032900	026	294	-17.1	2856+C3	4215+03	-46.9
033000	026	290	-17.4	2843+C3	4201+03	-45.8
033100	026	291	-17.6	2831+03	4187+03	-47.0
033200	029	294	-17.9	2818+03	4173+03	-47.0
033300	028	292	-18.1	2806+03	4159+03	-47.4
033400	027	285	-18.4	2794+03	4145+03	-47.1
033500	028	283	-18.6	2781+03	4131+03	-47.2
033600	027	281	-18.8	2769+03	4117+03	-47.5
033700	024	276	-19.1	2757+03	4103+03	-47.8
033800	025	279	-19.3	2745+03	4089+03	-47.4
033900	027	279	-19.6	2731+03	4075+03	-47.5
034000	025	279	-19.8	2721+03	4061+03	-47.6
034100	027	282	-20.0	2718+03	4047+03	-48.7
034200	027	282	-20.3	2696+03	4033+03	-48.1
034300	024	279	-20.5	2684+C3	4019+03	-48.3
034400	027	282	-20.7	2672+03	4005+03	-48.5
034500	027	281	-20.9	2661+03	3991+03	-48.7
034600	025	276	-21.2	2649+03	3977+03	-49.0
034700	027	278	-21.4	2637+03	3964+03	-49.2
034800	026	279	-21.6	2625+03	3957+03	-49.4
034900	026	276	-21.7	2614+03	3936+03	-49.7

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT./SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG. C.)	PRESSURE (MILLIBARS)	DEW POINT (DEG. C.)	
					DENSITY (GRAM/M3)	DENSITY (DEG. C.)
035000	028	262	-42.1	.2602+03	.3923+03	-49.9
035100	028	279	-42.3	.2590+03	.3905+03	-50.1
035200	027	277	-42.5	.2579+03	.3895+03	-50.4
035300	028	278	-42.8	.2567+03	.3882+03	-50.6
035400	028	280	-43.0	.2555+03	.3868+03	-50.9
035500	028	278	-43.2	.2544+03	.3854+03	-51.1
035600	030	281	-43.5	.2532+03	.3841+03	-51.3
035700	029	281	-43.7	.2521+03	.3828+03	-51.6
035800	029	278	-43.9	.2510+03	.3816+03	-51.8
035900	030	283	-44.2	.2498+03	.3801+03	-52.1
036000	029	281	-44.4	.2487+03	.3788+03	-52.3
036100	029	278	-44.6	.2476+03	.3774+03	-52.5
036200	031	278	-44.9	.2465+03	.3761+03	-52.7
036300	029	275	-45.1	.2453+03	.3749+03	-52.9
036400	029	277	-45.4	.2442+03	.3736+03	-53.1
036500	029	279	-45.6	.2431+03	.3723+03	-53.3
036600	026	284	-45.9	.2420+03	.3710+03	-53.6
036700	030	275	-46.1	.2409+03	.3697+03	-53.8
036800	031	286	-46.4	.2398+03	.3684+03	-54.0
036900	028	280	-46.6	.2387+03	.3672+03	-54.2
037000	031	280	-46.9	.2376+03	.3660+03	-54.4
037100	033	280	-47.1	.2366+03	.3659+03	-54.6
037200	030	282	-47.4	.2355+03	.3646+03	-54.8
037300	030	278	-47.6	.2344+03	.3634+03	-55.0
037400	031	281	-47.9	.2333+03	.3608+03	-55.2
037500	030	275	-48.1	.2323+03	.3596+03	-55.4
037600	030	279	-48.4	.2312+03	.3583+03	-55.6
037700	030	275	-48.6	.2301+03	.3571+03	-55.8
037800	029	273	-48.9	.2291+03	.3558+03	-56.0
037900	031	272	-49.1	.2280+03	.3546+03	-56.2
038000	030	266	-49.3	.2270+03	.3534+03	-56.4
038100	033	266	-49.7	.2259+03	.3521+03	-56.6
038200	033	262	-49.9	.2249+03	.3509+03	-56.8
038300	032	261	-50.2	.2239+03	.3497+03	-57.1
038400	034	262	-50.4	.2228+03	.3485+03	-57.3
038500	034	263	-50.7	.2217+03	.3473+03	-57.5
038600	035	263	-51.0	.2207+03	.3460+03	-57.7
038700	040	260	-51.2	.2197+03	.3448+03	-57.9
038800	038	263	-51.5	.2197+03	.3436+03	-58.2
038900	040	261	-51.7	.2177+03	.3425+03	-58.4
039000	041	261	-52.0	.2156+03	.3413+03	-58.6
039100	041	263	-52.3	.2156+03	.3401+03	-58.8
039200	040	260	-52.5	.2146+03	.3398+03	-59.0
039300	040	265	-52.8	.2136+03	.3377+03	-59.3
039400	041	261	-53.0	.2126+03	.3365+03	-59.5
039500	041	261	-53.3	.2116+03	.3353+03	-59.7
039600	041	265	-53.6	.2106+03	.3341+03	-59.9
039700	042	262	-53.9	.2096+03	.3329+03	-60.1
039800	042	265	-54.1	.2096+03	.3319+03	-60.4
039900	043	266	-54.3	.2077+03	.3316+03	-60.6

TABLE 5. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (IN LIBARS)	DENSITY (GRAM/M3)		NEW POINT (DEG C)
					-54.6	.3294+03	
640000	042	243	269	-54.9	.2067+03	.3282+03	-60.6
641100	042	242	269	-55.1	.2047+03	.3271+03	-61.0
642200	042	243	273	-55.3	.2037+03	.3259+03	-61.4
643300	044	243	268	-55.6	.2028+03	.3247+03	-61.6
644400	043	243	279	-55.8	.2018+03	.3235+03	-61.8
645500	043	242	271	-56.1	.2009+03	.3224+03	-62.1
646600	042	240	267	-56.3	.2000+03	.3212+03	-62.4
647700	040	241	267	-56.6	.1990+03	.3201+03	-62.5
648800	042	242	262	-56.8	.1980+03	.3189+03	-62.7
649900	046	262	262	-57.1	.1971+03	.3179+03	-62.9
651000	041	241	266	-57.3	.1961+03	.3166+03	-69999
651100	040	264	264	-57.6	.1952+03	.3154+03	-69999
651200	040	244	265	-57.9	.1942+03	.3143+03	-69999
651300	042	242	265	-58.1	.1933+03	.3131+03	-69999
651400	041	261	264	-58.3	.1924+03	.3120+03	-69999
651500	041	241	261	-58.5	.1914+03	.3109+03	-69999
651600	041	264	268	-58.8	.1905+03	.3097+03	-69999
651700	044	267	267	-59.0	.1896+03	.3086+03	-69999
651800	041	264	264	-59.1	.1886+03	.3075+03	-69999
651900	041	241	267	-59.3	.1877+03	.3063+03	-69999
652000	041	262	262	-59.6	.1878+03	.3052+03	-69999
652100	044	264	264	-59.9	.1869+03	.3041+03	-69999
652200	041	265	265	-60.1	.1860+03	.3031+03	-69999
652300	039	264	264	-60.3	.1851+03	.3030+03	-69999
652400	039	267	267	-60.6	.1842+3	.3018+03	-69999
652500	038	262	262	-60.9	.1833+3	.3007+03	-69999
652600	038	267	267	-61.1	.1824+03	.2996+03	-69999
652700	041	265	265	-61.3	.1815+03	.2985+03	-69999
652800	039	266	266	-61.6	.1806+03	.2974+03	-69999
652900	040	264	264	-61.8	.1797+03	.2963+03	-69999
653000	039	266	266	-62.1	.1789+03	.2952+03	-69999
653100	039	267	267	-62.3	.1780+03	.2941+03	-69999
653200	040	267	267	-62.6	.1771+03	.2930+03	-69999
653300	040	263	263	-62.8	.1762+03	.2919+03	-69999
653400	041	266	266	-63.0	.1753+03	.2907+03	-69999
653500	043	267	267	-63.2	.1745+03	.2896+03	-69999
653600	040	267	267	-63.5	.1736+03	.2885+03	-69999
653700	040	269	269	-63.7	.1728+03	.2874+03	-69999
653800	043	269	269	-63.7	.1719+03	.2863+03	-69999
653900	042	268	268	-64.2	.1711+03	.2852+03	-69999
654000	040	265	265	-64.4	.1703+03	.2841+03	-69999
654100	040	270	264	-64.5	.1694+03	.2829+03	-69999
654200	037	254	264	-64.7	.1686+03	.2817+03	-69999
654300	038	262	262	-64.8	.1677+03	.2805+03	-69999
654400	042	261	261	-65.0	.1669+03	.2793+03	-69999
654500	042	261	261	-65.1	.1661+03	.2782+03	-69999
654600	042	261	261	-65.3	.1653+03	.2772+03	-69999
654700	040	266	265	-65.4	.1644+03	.2758+03	-69999
654800	042	265	265	-65.6	.1636+03	.2746+03	-69999
654900	040	269	265	-65.7	.1628+03	.2735+03	-69999

TABLE 5. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEN POINT (DEG C)
045000	042	268	-65.9	.1620+03	.2723+03	-9999.
045100	041	278	-66.0	.1612+03	.2711+03	-9999.
045200	040	280	-66.1	.1604+03	.2698+03	-9999.
045300	039	282	-66.1	.1596+03	.2686+03	-9999.
045400	042	287	-66.2	.1588+03	.2673+03	-9999.
045500	041	288	-66.3	.1580+03	.2661+03	-9999.
045600	039	283	-66.3	.1572+03	.2649+03	-9999.
045700	040	286	-66.5	.1564+03	.2636+03	-9999.
045800	039	290	-66.5	.1556+03	.2624+03	-9999.
045900	036	286	-66.6	.1549+03	.2612+03	-9999.
046000	037	287	-66.7	.1541+03	.2600+03	-9999.
046100	041	290	-66.9	.1533+03	.2589+03	-9999.
046200	038	291	-67.7	.1525+03	.2578+03	-9999.
046300	038	292	-67.2	.1518+03	.2568+03	-9999.
046400	037	293	-67.4	.1510+03	.2557+03	-9999.
046500	035	295	-67.5	.1513+03	.2546+03	-9999.
046600	034	289	-67.7	.1495+03	.2535+03	-9999.
046700	031	287	-67.9	.1488+03	.2525+03	-9999.
046800	032	297	-68.1	.1480+03	.2514+03	-9999.
046900	031	305	-68.2	.1473+03	.2504+03	-9999.
047000	032	298	-68.4	.1465+03	.2493+03	-9999.
047100	031	299	-68.5	.1458+03	.2481+03	-9999.
047200	029	304	-68.5	.1451+03	.2469+03	-9999.
047300	030	305	-68.5	.1443+03	.2457+03	-9999.
047400	032	305	-68.5	.1436+03	.2445+03	-9999.
047500	026	310	-68.5	.1429+03	.2433+03	-9999.
047600	024	300	-68.6	.1422+03	.2421+03	-9999.
047700	024	307	-68.6	.1414+03	.2409+03	-9999.
047800	021	302	-68.6	.1407+03	.2397+03	-9999.
047900	016	302	-68.7	.1400+03	.2385+03	-9999.
048000	017	303	-68.7	.1393+03	.2374+03	-9999.
048100	012	297	-68.7	.1386+03	.2362+03	-9999.
048200	012	279	-68.8	.1379+03	.2351+03	-9999.
048300	008	272	-68.8	.1372+03	.2340+03	-9999.
048400	012	277	-68.9	.1365+03	.2328+03	-9999.
048500	019	273	-68.9	.1358+03	.2317+03	-9999.
048600	019	276	-69.0	.1351+03	.2306+03	-9999.
048700	020	265	-69.0	.1345+03	.2295+03	-9999.
048800	017	280	-69.1	.1338+03	.2286+03	-9999.
048900	020	291	-69.1	.1331+03	.2273+03	-9999.
049000	017	297	-69.2	.1324+03	.2262+03	-9999.
049100	012	284	-69.3	.1318+03	.2250+03	-9999.
049200	003	328	-68.8	.1311+03	.2235+03	-9999.
049300	004	166	-68.6	.1304+03	.2222+03	-9999.
049400	009	165	-68.4	.1298+03	.2208+03	-9999.
049500	008	190	-68.2	.1291+03	.2195+03	-9999.
049600	011	195	-68.3	.1285+03	.2182+03	-9999.
049700	017	202	-67.8	.1278+03	.2169+03	-9999.
049800	320	203	-67.6	.1272+03	.2156+03	-9999.
049900	321	216	-67.4	.1265+03	.2133+03	-9999.

TABLE 5. (Continued)

ALITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
050000	220	197	-67.2	1259+03	0.2118+03	-9999.
050100	221	192	-67.1	1253+03	0.2110+03	-9999.
050200	222	189	-67.0	1247+03	0.2107+03	-9999.
050300	222	182	-66.9	1240+03	0.2095+03	-9999.
050400	217	169	-66.8	1234+03	0.2084+03	-9999.
050500	221	172	-66.7	1228+03	0.2072+03	-9999.
050600	220	167	-66.6	1222+03	0.2061+03	-9999.
050700	222	182	-66.5	1216+03	0.2049+03	-9999.
050800	225	177	-66.4	1210+03	0.2038+03	-9999.
050900	218	181	-66.3	1204+03	0.2027+03	-9999.
051000	220	181	-66.2	1198+03	0.2016+03	-9999.
051100	216	182	-66.3	1192+03	0.2007+03	-9999.
051200	216	195	-66.4	1196+03	0.1998+03	-9999.
051300	215	191	-66.5	1180+03	0.1989+03	-9999.
051400	215	182	-66.6	1174+03	0.1980+03	-9999.
051500	217	191	-66.7	1168+03	0.1971+03	-9999.
051600	215	160	-66.2	1162+03	0.1963+03	-9999.
051700	215	189	-67.0	1156+03	0.1954+03	-9999.
051800	216	198	-67.1	1151+03	0.1945+03	-9999.
051900	217	187	-67.2	1145+03	0.1936+03	-9999.
052000	214	176	-67.3	1139+03	0.1928+03	-9999.
052100	213	178	-67.1	1133+03	0.1917+03	-9999.
052200	212	143	-67.0	1128+03	0.1905+03	-9999.
052300	218	144	-66.8	1122+03	0.1894+03	-9999.
052400	214	137	-66.6	1117+03	0.1883+03	-9999.
052500	214	145	-66.4	1111+03	0.1872+03	-9999.
052600	208	127	-66.3	1105+03	0.1861+03	-9999.
052700	206	268	-66.1	1100+03	0.1851+03	-9999.
052800	211	339	-65.9	1094+03	0.1840+03	-9999.
052900	211	242	-65.8	1089+03	0.1829+03	-9999.
053000	208	075	-65.6	1094+03	0.1819+03	-9999.
053100	208	080	-65.6	1078+03	0.1809+03	-9999.
053200	206	097	-65.5	1071+03	0.1800+03	-9999.
053300	210	149	-65.5	1067+03	0.1791+03	-9999.
053400	207	163	-65.4	1062+03	0.1781+03	-9999.
053500	205	211	-65.4	1257+03	0.1772+03	-9999.
053600	204	005	-65.4	1252+03	0.1763+03	-9999.
053700	006	136	-65.3	1046+03	0.1754+03	-9999.
053800	004	111	-65.3	1041+03	0.1745+03	-9999.
053900	005	076	-65.2	1036+03	0.1736+03	-9999.
054000	004	076	-65.2	1031+03	0.1727+03	-9999.
054100	004	011	-65.2	1026+03	0.1719+03	-9999.
054200	004	317	-65.2	1021+03	0.1710+03	-9999.
054300	208	342	-65.3	1016+03	0.1702+03	-9999.
054400	210	343	-65.3	1011+03	0.1694+03	-9999.
054500	210	348	-65.3	1006+03	0.1685+03	-9999.
054600	207	012	-65.3	1021+03	0.1677+03	-9999.
054700	206	036	-65.3	956+02	0.1669+03	-9999.
054800	203	776	-65.4	927+02	0.1661+03	-9999.
054900	209	764	-65.4	05A+02	0.1657+03	-9999.

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M ³)	DEW POINT (DEG C)	
						-9999.	-9999.
055000	010	084	-65.4	.9809+02	.1645+03	-9999.	-9999.
055100	012	117	-65.4	.9760+02	.1627+03	-9999.	-9999.
055200	016	789	-65.5	.9712+02	.1629+03	-9999.	-9999.
055300	018	110	-65.5	.9663+02	.1622+03	-9999.	-9999.
055400	020	115	-65.6	.9615+02	.1614+03	-9999.	-9999.
055500	020	101	-65.6	.9568+02	.1606+03	-9999.	-9999.
055600	017	109	-65.7	.9520+02	.1599+03	-9999.	-9999.
055700	019	997	-65.7	.9473+02	.1591+03	-9999.	-9999.
055800	013	107	-65.9	.9426+02	.1564+03	-9999.	-9999.
055900	011	120	-65.8	.9379+02	.1576+03	-9999.	-9999.
056000	009	114	-65.9	.9332+02	.1569+03	-9999.	-9999.
056100	011	114	-65.9	.9246+02	.1561+03	-9999.	-9999.
056200	010	126	-65.9	.9239+02	.1553+03	-9999.	-9999.
056300	009	139	-65.9	.9193+02	.1545+03	-9999.	-9999.
056400	006	146	-65.9	.9146+02	.1538+03	-9999.	-9999.
056500	007	146	-65.9	.9107+02	.1530+03	-9999.	-9999.
056600	007	142	-65.9	.9057+02	.1522+03	-9999.	-9999.
056700	009	176	-65.9	.9012+02	.1515+03	-9999.	-9999.
056800	007	168	-65.9	.8957+02	.1507+03	-9999.	-9999.
056900	005	17	-65.9	.8922+02	.1500+03	-9999.	-9999.
057000	007	119	-65.9	.8878+02	.1492+03	-9999.	-9999.
058000	019	117	-65.3	.8447+02	.1416+03	-9999.	-9999.
059000	020	116	-65.2	.8037+02	.1366+03	-9999.	-9999.
060000	021	98	-64.7	.7648+02	.1278+03	-9999.	-9999.
061000	026	980	-63.1	.7280+02	.1207+03	-9999.	-9999.
062000	035	074	-63.5	.6930+02	.1152+03	-9999.	-9999.
063000	038	076	-62.3	.6598+02	.1090+03	-9999.	-9999.
064000	039	078	-60.1	.6263+02	.1034+03	-9999.	-9999.
065000	039	079	-60.1	.5946+02	.9766+02	-9999.	-9999.
066000	038	078	-59.5	.5752+02	.9297+02	-9999.	-9999.
067000	039	076	-60.0	.5533+02	.8880+02	-9999.	-9999.
068000	041	075	-59.3	.5176+02	.8452+02	-9999.	-9999.
069000	049	079	-59.2	.4932+02	.8031+02	-9999.	-9999.
070000	046	087	-58.6	.4700+02	.7631+02	-9999.	-9999.
071000	047	091	-57.7	.4490+02	.7249+02	-9999.	-9999.
072000	046	091	-57.6	.4270+02	.6801+02	-9999.	-9999.
073000	044	093	-58.1	.4070+02	.5393+02	-9999.	-9999.
074000	044	089	-58.1	.3940+02	.5111+02	-9999.	-9999.
075000	047	088	-56.9	.3696+02	.4844+02	-9999.	-9999.
076000	050	089	-56.7	.3526+	.5957+02	-9999.	-9999.
077000	051	090	-56.0	.3362+	.5319+02	-9999.	-9999.
078000	052	093	-54.5	.3207+	.3935+02	-9999.	-9999.
079000	053	096	-53.3	.3059+	-	-	-
080000	054	101	-52.9	.2919+02	-	-	-
081000	055	106	-50.8	.2746+02	-	-	-
082000	055	109	-50.1	.2660+02	.4154+02	-	-
083000	053	117	-48.2	.2541+02	.3729+02	-9999.	-9999.
084000	054	109	-46.4	.2319+02	.3657+02	-9999.	-9999.
085000	052	108	-49.2	.2215+02	.3499+02	-9999.	-9999.
086000	053	104	-48.4	.2215+02	-	-	-

TABLE 5. (Continued)

ALTITUDE (FT.)	MIND SPEED (FT/SEC.)	MIND DIRECTION (DEG.)	TEMPERATURE (DEG. C.)	PRESSURE (IN. OF BARIS)	DENSITY (GRAM/M ³)	DEW POINT (DEG. C.)
087000	256	087	-49.3	.2115+02	.3291+02	-9999.
088000	060	081	-49.2	.2020+02	.3142+02	-9999.
089000	J64	079	-49.0	.1929+02	.2998+02	-9999.
090000	067	079	-48.7	.1842+02	.2859+02	-9999.
091000	070	079	-48.3	.1760+02	.2727+02	-9999.
092000	075	081	-48.0	.1681+02	.2601+02	-9999.
093000	080	082	-46.5	.1606+02	.2470+02	-9999.
094000	085	085	-45.6	.1533+02	.2350+02	-9999.
095000	089	089	-46.0	.1467+02	.2250+02	-9999.
096000	091	093	-45.9	.1402+02	.2149+02	-9999.
097000	092	095	-45.2	.1340+02	.2048+02	-9999.
098000	089	095	-43.9	.1281+02	.1947+02	-9999.
099000	392	094	-42.8	.1234+02	.1865+02	-9999.
100000	079	097	-41.7	.1176+02	.1776+02	-9999.
101000	101	099	-40.6	.1129+02	.1691+02	-9999.
102000	099	100	-39.5	.1080+02	.1610+02	-9999.
103000	094	101	-38.5	.1033+02	.1534+02	-9999.
104000	287	101	-37.5	.9892+01	.1462+02	-9999.
105000	081	100	-36.6	.9479+01	.1394+02	-9999.
106000	079	C98	-36.1	.9068+01	.1333+02	-9999.
107000	079	094	-36.2	.8693+01	.1277+02	-9999.
108000	081	090	-36.6	.8313+01	.1224+02	-9999.
109000	282	088	-37.0	.7950+01	.1174+02	-9999.
110000	084	087	-37.3	.7620+01	.1126+02	-9999.
111000	086	086	-37.1	.7295+01	.1077+02	-9999.
112000	084	083	-36.1	.6995+01	.1027+02	-9999.
113000	081	080	-35.1	.6689+01	.9789+01	-9999.
114000	079	075	-36.1	.6407+01	.9336+01	-9999.
115000	076	071	-35.1	.6138+01	.8909+01	-9999.
116000	074	064	-32.2	.5861+01	.8509+01	-9999.
117000	076	053	-32.0	.5636+01	.8142+01	-9999.
118000	077	066	-32.9	.5401+01	.7831+01	-9999.
119000	082	072	-33.7	.5173+01	.7527+01	-9999.
120000	087	080	-33.7	.4956+01	.7212+01	-9999.
121000	089	085	-33.6	.4748+01	.6904+01	-9999.
122000	094	090	-33.0	.4496+01	.6600+01	-9999.
123000	096	092	-31.9	.4359+01	.6294+01	-9999.
124000	097	080	-30.6	.4178+01	.6000+01	-9999.
125000	101	087	-29.4	.4025+01	.5723+01	-9999.
126000	101	087	-28.8	.3840+01	.5474+01	-9999.
127000	099	087	-29.3	.3684+01	.5259+01	-9999.
128000	099	089	-30.2	.3530+01	.5061+01	-9999.
129000	099	093	-30.4	.3364+01	.4856+01	-9999.
130000	101	095	-29.9	.3200+01	.4645+01	-9999.
131000	101	095	-29.3	.3110+01	.4492+01	-9999.
132000	097	100	-28.3	.2982+01	.4243+01	-9999.
133000	092	101	-26.8	.2660+01	.4055+01	-9999.
134000	091	104	-25.3	.2744+01	.3557+01	-9999.
135000	289	104	-23.3	.2633+01	.3679+01	-9999.
136000	134	134	-22.9	.2521+01	.3511+01	-9999.

TABLE 5. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
137000	084	105	-21.0	3201+01	3351+01	-999.
138000		104	-19.6	3230+01	3359+01	-999.
139000	077	101	-18.3	3223+01	3359+01	-999.
140000	076	996	-17.0	3215+01	3292+01	-999.
141000	072	087	-15.8	3206+01	3279+01	-999.
142000	077	779	-15.4	3198+01	3268+01	-999.
143000	091	777	-15.8	3190+01	3258+01	-999.
144000	113	066	-15.7	3183+01	3246+01	-999.
145000	119	075	-12.3	3176+01	3235+01	-999.
146000	138	087	-8.9	3169+01	3233+01	-999.
147000	165	784	-6.6	3161+01	3213+01	-999.
148000	158	685	-6.6	3156+01	3205+01	-999.
149000	143	599	-6.8	3150+01	3197+01	-999.
150000	126	101	-6.9	3145+01	3190+01	-999.
151000	104	106	-7.2	3139+01	3183+01	-999.
152000	062	106	-8.2	3134+01	3176+01	-999.
153000	086	116	-9.2	3129+01	3170+01	-999.
154000	091	120	-10.2	3124+01	3164+01	-999.
155000	286	114	-11.2	3119+01	3159+01	-999.
156000	082	102	-12.2	3115+01	3153+01	-999.
157000	097	099	-11.8	3110+01	3147+01	-999.
158000	092	094	-10.9	3106+01	3141+01	-999.
159000	082	379	-10.0	3102+01	3135+01	-999.
160000	104	074	-9.1	3098+00	3129+01	-999.
161000	136	074	-8.3	3094+00	3124+01	-999.
162000	157	079	-7.9	3091+00	3119+01	-999.
163000	145	086	-8.3	3087+00	3115+01	-999.
164000	135	091	-8.4	3083+00	3110+01	-999.
165000	124	098	-8.5	3081+00	3106+01	-999.
166000	119	105	-8.8	3080+00	3102+01	-999.
167000	104	115	-9.0	3075+00	3097+00	-999.
168000	109	123	-9.3	3072+00	3095+00	-999.
169000	106	129	-9.6	3069+00	3088+00	-999.
170000	292	140	-9.7	3066+00	3084+00	-999.
171000	079	155	-9.9	3063+00	3081+00	-999.
172000	064	169	-10.1	3061+00	3079+00	-999.
173000	054	185	-10.3	3059+00	3076+00	-999.
174000	036	201	-10.5	3057+00	3075+00	-999.
175000	023	216	-11.2	3055+00	3073+00	-999.
176000	018	306	-13.1	3052+00	3070+00	-999.
177000	043	335	-15.1	3050+00	3067+00	-999.
178000	062	343	-17.2	3048+00	3065+00	-999.
179000	059	355	-18.2	3046+00	3064+00	-999.
180000	045	019	-21.4	3045+00	3062+00	-999.
181000	040	252	-23.5	3033+00	3045+00	-999.
182000	054	069	-25.5	3015+00	3055+00	-999.
183000	060	076	-27.8	3039+00	3066+00	-999.
184000	-	058	-27.0	3027+00	3041+00	-999.
185000	059	037	-25.6	3036+00	3051+00	-999.
186000	784	135	-27.1	3035+00	3049+00	-999.

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MBARS)	DENSITY (GRAM/M ³)	DEW POINT (DEG C)
187000	108	030	-20.9	13344.00	.4673.00	-9999.
188000	143	051	-19.1	13344.00	.4458.00	-9999.
189000	152	060	-18.6	13251.00	.4224.00	-9999.
190000	158	070	-18.4	13000.00	.4102.00	-9999.
191000	168	080	-18.8	12802.00	.3947.00	-9999.
192000	168	089	-18.4	12769.00	.3766.00	-9999.
193000	141	097	-18.5	12660.00	.3639.00	-9999.
194000	135	109	-18.7	12556.00	.3499.00	-9999.
195000	128	119	-18.7	12455.00	.3361.00	-9999.
196000	119	129	-18.5	12359.00	.3227.00	-9999.
197000	111	140	-19.2	12266.00	.3109.00	-9999.
198000	116	139	-18.3	12177.00	.2975.00	-9999.
199000	123	145	-18.4	12092.00	.2861.00	-9999.
200000	116	145	-19.8	12059.00	.2762.00	-9999.
201000	113	139	-22.4	11910.00	.2681.00	-9999.
202000	092	136	-24.9	11840.00	.2582.00	-9999.
203000	069	128	-26.8	11754.00	.2480.00	-9999.
204000	037	119	-30.1	11672.00	.2396.00	-9999.
205000	015	160	-32.2	11594.00	.2304.00	-9999.
206000	003	261	-34.2	11520.00	.2216.00	-9999.
207000	015	335	-37.3	11449.00	.2137.00	-9999.
208000	027	349	-44.1	11381.00	.2101.00	-9999.
209000	038	356	-45.2	11321.00	.2018.00	-9999.
210000	048	004	-45.2	11263.00	.1930.00	-9999.
211000	057	013	-45.2	11208.00	.1846.00	-9999.
212000	069	022	-46.2	11155.00	.1773.00	-9999.
213000	061	029	-47.4	11104.00	.1703.00	-9999.
214000	092	033	-49.2	11056.00	.1642.00	-9999.
215000	103	037	-50.2	11009.00	.1576.00	-9999.
216000	113	039	-51.5	10950.01	.1514.00	-9999.
217000	118	042	-54.6	10900.01	.1466.00	-9999.
218000	121	045	-55.7	10770.01	.1405.00	-9999.
219000	123	048	-56.4	10640.01	.1334.00	-9999.
220000	119	051	-54.7	10500.01	.1276.00	-9999.
221000	114	054	-57.0	10460.01	.1231.00	-9999.
222000	108	056	-58.8	10290.01	.1185.00	-9999.
223000	099	063	-61.3	10150.01	.1141.00	-9999.
224000	091	064	-62.2	10000.01	.1100.00	-9999.
225000	045	102	-62.2	5170.01	.8536.01	-9999.
226000	081	069	-65.9	6270.01	.1054.00	-9999.
227000	069	075	-69.2	6400.01	.1016.00	-9999.
228000	060	083	-68.2	5680.01	.9655.01	-9999.
229000	052	092	-65.1	5420.01	.9076.01	-9999.
230000	045	102	-62.2	5170.01	.8536.01	-9999.
231000	035	112	-62.2	4930.01	.8140.01	-9999.
232000	032	122	-62.2	4700.01	.7760.01	-9999.
233000	030	135	-62.2	4480.01	.7197.01	-9999.
234000	228	168	-60.5	4070.01	.6669.01	-9999.
235000	032	182	-60.2	3880.01	.6346.01	-9999.
236000	033	192	-60.6	3770.01	.6063.01	-9999.

TABLE 5. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG. C.)	PRESSURE (HGT/IRARS)	DEW POINT (DEG. C.)
237000	0.37	199	-61.2	.5801-01	-9999.
238000	0.40	207	-62.2	.5547-01	-9999.
239000	0.43	214	-63.2	.5210-01	-9999.
240000	0.45	220	-64.2	.5050-01	-9999.
241000	0.46	226	-65.7	.4887-01	-9999.
242000	0.54	233	-68.0	.2770-01	-9999.
243000	0.59	239	-70.2	.2610-01	-9999.
244000	0.65	245	-71.0	.2500-01	-9999.
245000	0.70	250	-71.2	.2380-01	-9999.
246000	0.77	254	-71.9	.2270-01	-9999.
247000	0.84	254	-75.0	.2150-01	-9999.
248000	0.91	267	-77.1	.2040-01	-9999.
249000	0.96	261	-77.9	.1940-01	-9999.
250000	1.03	265	-79.2	.1840-01	-9999.
251000	1.09	269	-80.7	.1750-01	-9999.
252000	1.14	269	-81.2	.1660-01	-9999.
253000	1.21	270	-82.2	.1570-01	-9999.
254000	1.26	272	-83.2	.1490-01	-9999.
255000	1.31	273	-83.8	.1410-01	-9999.
256000	1.36	275	-86.2	.1340-01	-9999.
257000	140	276	-87.8	.1270-01	-9999.
258000	143	277	-89.5	.1220-01	-9999.
259000	148	278	-91.9	.1140-01	-9999.
260000	152	279	-93.7	.1060-01	-9999.
261000	155	280	-94.2	.1020-01	-9999.
262000	157	281	-94.6	.9690-02	-9999.
263000	158	281	-94.2	.9130-02	-9999.
264000	158	282	-92.6	.8600-02	-9999.
265000	158	283	-91.3	.8100-02	-9999.
266000	158	284	-90.5	.7700-02	-9999.
267000	155	285	-90.2	.7300-02	-9999.
268000	153	286	-90.6	.6900-02	-9999.
269000	152	286	-92.1	.6500-02	-9999.
270000	148	287	-92.5	.6100-02	-9999.
271000	146	287	-94.2	.5800-02	-9999.
272000	143	287	-96.7	.5520-02	-9999.
273000	143	288	-98.2	.5200-02	-9999.
274000	136	288	-99.7	.4900-02	-9999.
275000	129	288	-98.8	.4724-02	-9999.
276000	122	288	-97.9	.4517-02	-9999.
277000	114	289	-97.3	.4316-02	-9999.
278000	107	289	-96.1	.4163-02	-9999.
279000	100	288	-95.2	.3997-02	-9999.
280000	93	288	-94.3	.3838-02	-9999.
281000	86	288	-93.4	.3645-02	-9999.
282000	78	288	-92.5	.3537-02	-9999.
283000	71	288	-91.6	.3396-02	-9999.
284000	64	289	-90.7	.3261-02	-9999.
285000	57	289	-89.8	.3131-02	-9999.
286000	50	289	-88.9	.3063-02	-9999.

TABLE 5. (Concluded)

ALTITUDE (FT)	WIND SPEED (FT./SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG. C)	PRESSURE (IN. OF MARS)	DENSITY (GRAM/M3)	DEW POINT (DEG. C)
287000	042	289	-87.9	.58866-02	.5797-02	-9999.
288000	075	290	-87.0	.2771-02	.5566-02	-9999.
289000	026	291	-86.1	.26660-02	.5343-02	-9999.
290000	336	289	-86.5	.2260-02	.4240-02	-9999.
295000	045	279	-86.9	.1920-02	.3590-02	-9999.
298000	089	273	-84.2	.1670-02	.3160-02	-9999.
301000	140	271	-82.7	.1420-02	.2560-02	-9999.
304000	193	271	-81.3	.1420-02	.2180-02	-9999.
307000	241	272	-79.8	.1610-02	.1840-02	-9999.
310000	276	270	-78.3	.1790-02	.1550-02	-9999.
313000	292	269	-76.2	.1750-03	.1320-02	-9999.
316000	302	269	-75.6	.1640-03	.1120-02	-9999.
319000	302	269	-74.2	.15520-03	.9470-03	-9999.
322000	305	269	-72.9	.1720-03	.8740-03	-9999.
325000	292	269	-71.5	.1950-03	.8020-03	-9999.
328000	264	269	-70.2	.1470-03	.6820-03	-9999.
331000	270	269	-67.5	.1990-03	.5790-03	-9999.
334000	272	269	-64.9	.2570-03	.4920-03	-9999.
337000	266	269	-62.0	.2210-03	.3520-03	-9999.
340000	249	268	-59.3	.1900-03	.2980-03	-9999.
343000	218	268	-56.6	.1640-03	.2520-03	-9999.
346000	196	268	-52.5	.1403	.2140-03	-9999.
349000	195	267	-47.2	.1250-03	.1630-03	-9999.
352000	187	267	-41.9	.1090-03	.1560-03	-9999.
355000	171	265	-36.5	.9510-04	.1330-03	-9999.
356000	144	263	-31.2	.8330-04	.1130-03	-9999.
361000	103	264	-25.8	.7290-04	.9650-04	-9999.
364000	399	261	-18.1	.6540-04	.8380-04	-9999.
367000	092	257	-10.4	.5860-04	.7270-04	-9999.
370000	381	251	-2.9	.5250-04	.6310-04	-9999.
373000	067	240	4.9	.4700-04	.5470-04	-9999.
376000	052	217	12.6	.4210-04	.4750-04	-9999.
379000	329	215	21.0	.3870-04	.4150-04	-9999.
382000	030	209	30.2	.3460-04	.3660-04	-9999.
385000	032	204	39.6	.3160-04	.3230-04	-9999.
388000	034	200	49.3	.2970-04	.2860-04	-9999.
391000	337	195	59.3	.2660-04	.2550-04	-9999.
394000	340	192	69.4	.2460-04	.2270-04	-9999.
397000	043	189	79.7	.2270-04	.2030-04	-9999.
400000	347	186	90.1	.2100-04	.1820-04	-9999.

TABLE 6. STS-41D FINAL SRB DESCENT ATMOSPHERIC DATA TAPE

ALTITUDE (FT)	MIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M ³)	DEW POINT (DEG C)
0000028	011	150	27.7	.9844*03	.1167*04	21.7
0010000	009	204	27.1	.9518*03	.1133*04	18.4
0020000	002	215	23.9	.9192*03	.1107*04	18.1
0030000	005	196	2.0	.9192*03	.1077*04	18.4
0040000	008	199	19.6	.9875*03	.1049*04	17.6
0050000	014	214	17.5	.8566*03	.1021*04	11.5
0060000	010	225	15.2	.8266*03	.9933*03	9.3
0070000	012	222	13.6	.7974*03	.9659*03	-1
0080000	011	216	12.0	.7691*03	.9366*03	-8
0090000	012	211	10.5	.7416*03	.9079*03	-4
0100000	015	213	8.6	.7149*03	.8817*03	-1.1
0110000	017	222	6.7	.6890*03	.8565*03	-11.0
0120000	016	227	5.8	.6639*03	.8291*03	-91.6
0130000	018	243	4.0	.6396*03	.8039*03	-97.4
0140000	021	260	2.9	.6160*03	.7774*03	-98.2
0150000	021	270	1.4	.5933*03	.7527*03	-99.1
0160000	016	266	-1.9	.5711*03	.7335*03	-91.2
0170000	012	255	-4.1	.5496*03	.7116*03	-52.5
0180000	013	259	-5.3	.5288*03	.6870*03	-53.1
0190000	014	267	-7.4	.5086*03	.6668*03	-54.6
0200000	016	267	-8.6	.4891*03	.6441*03	-55.9
0210000	021	277	-10.6	.4703*03	.6240*03	-56.6
0220000	026	289	-12.9	.4520*03	.6050*03	-58.1
0230000	027	278	-14.5	.4343*03	.5849*03	-59.1
0240000	026	273	-17.6	.4171*03	.5686*03	-61.1
0250000	021	278	-19.3	.4005*03	.5496*03	-62.2
0260000	021	273	-20.7	.3844*03	.5304*03	-63.1
0270000	026	269	-23.7	.3688*03	.5151*03	-65.1
0280000	032	271	-25.2	.3538*03	.4971*03	-66.0
0290000	034	273	-28.4	.3392*03	.4828*03	-68.1
0300000	031	277	-22.7	.3251*03	.4652*03	-69.0
0310000	027	280	-30.9	.3115*03	.4480*03	-69.7
0320000	022	260	-33.4	.2984*03	.4336*03	-71.4
0332000	023	252	-36.4	.2857*03	.4205*03	-73.4
0340000	026	270	-38.9	.2739*03	.4066*03	-75.0
0350000	027	277	-41.4	.2616*03	.3932*03	-76.6
0360000	028	276	-44.0	.2501*03	.3802*03	-78.5
C37000	030	270	-47.2	.2389*03	.3688*03	-80.6
C38200	021	269	-42.7	.2262*03	.3557*03	-82.3
C39000	031	270	-53.9	.2178*03	.3414*03	-83.2
C40000	033	272	-54.6	.2078*03	.3313*03	-85.7
C41000	037	277	-56.5	.1982*03	.3187*03	-87.0
C42000	040	282	-59.1	.1889*03	.3074*03	-99.9
C43000	043	282	-61.4	.1799*03	.2960*03	-99.9
C44000	048	276	-64.2	.1730*03	.2955*03	-99.9
C45000	045	270	-65.0	.1670*03	.2728*03	-99.9
C46000	019	265	-66.1	.1552*03	.2609*03	-99.9
C47000	070	256	-66.5	.1475*03	.2486*03	-99.9
C48000	024	246	-65.2	.1453*03	.2353*03	-99.9
C49000	023	239	-65.8	.1335*03	.2142*03	-99.9

TABLE 6. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG C.)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C.)
050000	019	232	-65.8	.1270+03	.2133+03	-9999.
051000	008	213	-65.8	.1208+03	.2030+03	-9999.
052000	009	142	-62.2	.1150+03	.1898+03	-9999.
053000	004	084	-62.1	.1095+03	.1807+03	-9999.
054000	005	082	-62.6	.1042+03	.1724+03	-9999.
055000	006	080	-63.1	.9923+02	.1646+03	-9999.
056000	009	085	-64.4	.9445+02	.1576+03	-9999.
057700	012	105	-64.0	.8989+02	.1497+03	-9999.
058000	014	104	-63.7	.8556+02	.1423+03	-9999.
059000	020	104	-63.4	.8144+02	.1353+03	-9999.
060000	029	105	-62.8	.7754+02	.1284+03	-9999.
061000	036	103	-62.6	.7382+02	.1221+03	-9999.
062000	038	092	-62.0	.7029+02	.1160+03	-9999.
063000	037	095	-61.3	.6694+02	.1101+03	-9999.
064000	039	086	-61.1	.6376+02	.1047+03	-9999.
065000	051	068	-60.1	.6073+02	.9930+02	-9999.
066000	057	063	-59.1	.5786+02	.9417+02	-9999.
067000	060	081	-58.7	.5514+02	.8957+02	-9999.
068000	057	092	-58.0	.5255+02	.8509+02	-9999.
069000	051	114	-56.9	.5010+02	.8071+02	-9999.
070000	055	134	-57.2	.4776+02	.7705+02	-9999.
071000	053	155	-56.1	.4544+02	.7309+02	-9999.
072000	049	147	-54.9	.4343+02	.6932+02	-9999.
073000	046	118	-54.3	.4142+02	.6593+02	-9999.
074000	044	097	-54.2	.3952+02	.6288+02	-9999.
075000	046	081	-53.4	.3770+02	.5977+02	-9999.
076000	046	081	-52.9	.3598+02	.5691+02	-9999.
077000	046	080	-52.4	.3433+02	.5418+02	-9999.
078000	047	079	-50.3	.3277+02	.5123+02	-9999.
079000	051	079	-49.6	.3129+02	.4876+02	-9999.
080000	054	083	-48.8	.2988+02	.4640+02	-9999.
081000	054	084	-47.9	.2854+02	.4414+02	-9999.
082000	054	085	-46.1	.2727+02	.4184+02	-9999.
083000	059	088	-47.1	.2606+02	.4016+02	-9999.
084000	062	087	-47.2	.2469+02	.3838+02	-9999.
085000	064	085	-47.1	.2378+02	.3665+02	-9999.
086000	068	081	-44.1	.2272+02	.3494+02	-9999.
087000	076	080	-46.5	.2171+02	.3337+02	-9999.
088000	089	077	-46.3	.2075+02	.3187+02	-9999.
089000	080	074	-46.1	.1983+02	.3043+02	-9999.
090000	062	082	-44.8	.1895+02	.2891+02	-9999.
091000	055	092	-44.1	.1812+02	.2756+02	-9999.
092000	056	102	-44.4	.1732+02	.2638+02	-9999.
093000	054	109	-44.6	.1656+02	.2524+02	-9999.
094000	052	110	-44.0	.1583+02	.2407+02	-9999.
095000	076	110	-43.9	.1513+02	.2294+02	-9999.
096000	073	109	-43.0	.1447+02	.2190+02	-9999.
097000	073	108	-42.6	.1377+02	.2081+02	-9999.
098000	056	109	-42.3	.1310+02	.1977+02	-9999.
099000	02	102	-42.0	.1247+02	.1879+02	-9999.

TABLE 6. (Continued)

ALTITUDE (FT.)	WIND SPEED (FT/SEC.)	WIND DIRECTION (DEG.)	TEMPERATURE (DEG C.)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M ³)	DEW POINT (DEG C.)
1000000	0.99	0.97	-11.7	.1186+0.2	.1785+0.2	-9.999.
1010000	1.01	0.99	-40.6	.1129+0.2	.1691+0.2	-9.999.
1020000	0.92	1.00	-39.5	.1080+0.2	.1610+0.2	-9.999.
1030000	0.94	1.01	-36.5	.1033+0.2	.1536+0.2	-9.999.
1040000	0.87	1.01	-37.5	.9892+0.1	.1462+0.2	-9.999.
1050000	0.81	1.00	-36.6	.9470+0.1	.1394+0.2	-9.999.
1060000	0.79	0.98	-36.1	.9068+0.1	.1333+0.2	-9.999.
1070000	0.79	0.94	-36.2	.8683+0.1	.1277+0.2	-9.999.
1080000	0.81	0.90	-36.6	.8313+0.1	.1224+0.2	-9.999.
1090000	0.82	0.88	-37.0	.7959+0.1	.1174+0.2	-9.999.
1100000	0.84	0.87	-37.3	.7620+0.1	.1126+0.2	-9.999.
1110000	0.86	0.84	-37.1	.7295+0.1	.1077+0.2	-9.999.
1120000	0.84	0.83	-36.1	.6985+0.1	.1027+0.2	-9.999.
1130000	0.81	0.80	-35.1	.6689+0.1	.9769+0.1	-9.999.
1140000	0.79	0.75	-34.1	.6407+0.1	.9316+0.1	-9.999.
1150000	0.76	0.71	-33.1	.6138+0.1	.8909+0.1	-9.999.
1160000	0.74	0.64	-32.2	.5881+0.1	.8504+0.1	-9.999.
1170000	0.76	0.63	-32.0	.5636+0.1	.8142+0.1	-9.999.
1180000	0.77	0.66	-32.9	.5400+0.1	.7831+0.1	-9.999.
1190000	0.62	0.72	-33.7	.5173+0.1	.7527+0.1	-9.999.
1200000	0.67	0.80	-33.7	.4956+0.1	.7212+0.1	-9.999.
1210000	0.89	0.66	-33.6	.4748+0.1	.6904+0.1	-9.999.
1220000	0.94	0.90	-33.0	.4549+0.1	.6604+0.1	-9.999.
1230000	0.96	0.92	-31.9	.4359+0.1	.6294+0.1	-9.999.
1240000	0.97	0.89	-30.6	.4178+0.1	.6000+0.1	-9.999.
1250000	1.01	0.87	-29.4	.4005+0.1	.5723+0.1	-9.999.
1260000	1.01	0.87	-28.8	.3840+0.1	.5474+0.1	-9.999.
1270000	0.99	0.87	-29.3	.3682+0.1	.5259+0.1	-9.999.
1280000	0.99	0.89	-30.2	.3530+0.1	.5061+0.1	-9.999.
1290000	0.99	0.93	-30.4	.3384+0.1	.4856+0.1	-9.999.
1300000	1.01	0.95	-29.9	.3244+0.1	.4645+0.1	-9.999.
1310000	1.01	0.96	-29.3	.3110+0.1	.44442+0.1	-9.999.
1320000	0.97	1.00	-28.3	.2982+0.1	.4243+0.1	-9.999.
1330000	0.92	1.03	-26.8	.2860+0.1	.4045+0.1	-9.999.
1340000	0.91	1.04	-25.1	.2744+0.1	.3857+0.1	-9.999.
1350000	0.89	1.04	-23.8	.2633+0.1	.3679+0.1	-9.999.
1360000	0.86	1.04	-22.4	.2527+0.1	.3511+0.1	-9.999.
1370000	0.84	1.05	-21.0	.2426+0.1	.3351+0.1	-9.999.
1380000	0.82	1.04	-19.6	.2330+0.1	.3201+0.1	-9.999.
1390000	0.77	1.01	-18.3	.2238+0.1	.3059+0.1	-9.999.
1400000	0.76	C6	-17.0	.2150+0.1	.2924+0.1	-9.999.
1410000	0.72	0.87	-15.8	.2065+0.1	.2796+0.1	-9.999.
1420000	0.77	2.79	-15.4	.1985+0.1	.2683+0.1	-9.999.
1430000	0.91	C7	-15.8	.1907+0.1	.2582+0.1	-9.999.
1440000	1.13	C6	-15.7	.1833+0.1	.2487+0.1	-9.999.
1450000	1.19	C7	-12.3	.1762+0.1	.2353+0.1	-9.999.
1460000	1.38	D6	-9.9	.1694+0.1	.2233+0.1	-9.999.
1470000	1.65	0.84	-6.6	.1630+0.1	.2130+0.1	-9.999.
1480000	1.58	0.85	-6.6	.1562+0.1	.2050+0.1	-9.999.
1490000	1.43	D9	-6.8	.1539+0.1	.1974+0.1	-9.999.

TABLE 6. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	OPEN POINT (DEG C)
150000	.126	101	-6.9	.1453+01	.1900+01	-9999.
151000	101	106	-7.2	.1398+01	.1831+01	-9999.
152000	.082	106	-8.2	.1395+01	.1768+01	-9999.
153000	.086	116	-9.2	.1294+01	.1707+01	-9999.
154000	.091	120	-10.2	.1244+01	.1649+01	-9999.
155000	.086	114	-11.2	.1197+01	.1592+01	-9999.
156000	.082	102	-12.2	.1151+01	.1536+01	-9999.
157000	.097	099	-11.8	.1107+01	.1475+01	-9999.
158000	.092	094	-10.9	.1064+01	.1414+01	-9999.
159000	.082	078	-10.0	.1023+01	.1355+01	-9999.
160000	.104	074	-9.1	.9845+00	.1299+01	-9999.
161000	.126	074	-8.3	.9471+00	.1246+01	-9999.
162000	.157	079	-7.9	.9113+00	.1197+01	-9999.
163000	.145	086	-8.0	.8768+00	.1152+01	-9999.
164000	.135	091	-8.4	.8436+00	.1110+01	-9999.
165000	.124	098	-8.5	.8116+00	.1068+01	-9999.
166000	.119	105	-8.8	.7808+00	.1029+01	-9999.
167000	.104	115	-9.0	.7512+00	.9907+00	-9999.
168000	.109	120	-9.3	.7226+00	.9539+00	-9999.
169000	.106	129	-9.6	.6952+00	.9188+00	-9999.
170000	.092	140	-9.7	.6687+00	.8892+00	-9999.
171000	.079	155	-9.9	.6432+00	.8512+00	-9999.
172000	.064	169	-10.1	.6187+00	.8191+00	-9999.
173000	.054	185	-10.3	.5951+00	.7887+00	-9999.
174000	.038	201	-10.5	.5724+00	.7591+00	-9999.
175000	.023	216	-11.0	.5506+00	.7318+00	-9999.
176000	.018	306	-13.1	.5294+00	.7097+00	-9999.
177000	.043	335	-15.1	.5090+00	.6872+00	-9999.
178000	.062	343	-17.2	.4891+00	.6657+00	-9999.
179000	.059	358	-19.2	.4699+00	.6446+00	-9999.
180000	.045	014	-21.4	.4513+00	.6245+00	-9999.
181000	.040	052	-23.5	.4333+00	.6045+00	-9999.
182000	.054	C6.9	-25.5	.4159+00	.5850+00	-9999.
183000	.060	076	-27.8	.3990+00	.5666+00	-9999.
184000	.050	C5.8	-27.0	.3827+00	.5416+00	-9999.
185000	.059	037	-25.6	.3672+00	.5168+00	-9999.
186000	.084	035	-23.1	.3525+00	.4911+00	-9999.
187000	108	030	-20.9	.3384+00	.4673+00	-9999.
188000	143	051	-19.1	.3251+00	.4458+00	-9999.
189000	152	060	-18.6	.3123+00	.4274+00	-9999.
190000	270	-18.4	-	.3000+00	.4102+00	-9999.
191000	168	080	-16.8	.2882+00	.3947+00	-9999.
192000	168	C8.9	-18.4	.2762+00	.3786+00	-9999.
193000	141	097	-16.5	.2660+00	.3639+00	-9999.
194000	175	109	-18.7	.2556+00	.3499+00	-9999.
195000	119	-18.7	-	.2455+00	.3361+00	-9999.
196000	128	122	-16.5	.2359+00	.3227+00	-9999.
197000	111	140	-19.2	.2266+00	.3109+00	-9999.
198000	116	139	-18.3	.2177+00	.2975+00	-9999.
199000	123	144	-18.4	.2092+00	.2861+00	-9999.

TABLE 6. (Continued)

ALTITUDE (FT)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE 10EG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEN POINT (DEG C)
200000	116	145	-19.4	.2009+00	.2762+00	-9999.
201000	113	139	-22.4	.1930+00	.2681+00	-9999.
202000	092	136	-26.9	.1840+00	.2582+00	-9999.
203000	069	128	-26.8	.1754+00	.2480+00	-9999.
204000	037	119	-30.1	.1672+00	.2396+00	-9999.
205000	015	160	-32.2	.1594+00	.2304+00	-9999.
206000	003	261	-34.2	.1520+00	.2216+00	-9999.
207000	015	335	-37.0	.1449+00	.2137+00	-9999.
208000	027	349	-44.1	.1381+00	.2101+00	-9999.
209000	078	356	-45.2	.1321+00	.2018+00	-9999.
210000	048	004	-45.2	.1264+00	.1930+00	-9999.
211000	057	013	-45.2	.1208+00	.1846+00	-9999.
212000	069	022	-46.2	.1155+00	.1773+00	-9999.
213000	081	029	-47.4	.1106+00	.1703+00	-9999.
214000	092	033	-49.2	.1056+00	.1642+00	-9999.
215000	103	037	-50.2	.1001+00	.1576+00	-9999.
216000	113	039	-51.5	.9630-01	.1514+00	-9999.
217000	118	042	-54.6	.9200+00	.1466+00	-9999.
218000	121	045	-55.7	.8770+00	.1405+00	-9999.
219000	123	048	-54.4	.8300+00	.1334+00	-9999.
220000	119	051	-54.7	.8000+00	.1276+00	-9999.
221000	114	054	-57.0	.7640+00	.1231+00	-9999.
222000	108	056	-58.8	.7290+00	.1185+00	-9999.
223000	099	060	-61.0	.6950+00	.1141+00	-9999.
224000	091	064	-62.2	.6600+00	.1090+00	-9999.
225000	081	069	-65.9	.6270+00	.1054+00	-9999.
226000	069	075	-69.2	.5960+00	.1018+00	-9999.
227000	060	083	-68.2	.5680+00	.9655-01	-9999.
228000	052	092	-65.1	.5420+00	.9076-01	-9999.
229000	045	102	-62.2	.5170+00	.8536-01	-9999.
230000	040	112	-62.2	.4930+00	.8140-01	-9999.
231000	035	122	-62.2	.4700+00	.7760-01	-9999.
232000	032	135	-62.2	.4480+00	.7397-01	-9999.
233000	030	151	-61.2	.4270+00	.7017-01	-9999.
234000	028	168	-60.5	.4070+00	.6669-01	-9999.
235000	032	182	-60.2	.3880+00	.6346-01	-9999.
236000	033	192	-60.5	.3700+00	.6063-01	-9999.
237000	037	199	-61.2	.3530+00	.5801-01	-9999.
238000	040	207	-62.2	.3360+00	.5547-01	-9999.
239000	043	214	-63.2	.3210+00	.5325-01	-9999.
240000	045	220	-64.2	.3050+00	.5084-01	-9999.
241000	048	226	-65.7	.2910+00	.4887-01	-9999.
242000	054	233	-68.0	.2770+00	.4703-01	-9999.
243000	059	239	-70.2	.2630+00	.4513-01	-9999.
244000	065	245	-71.0	.2500+00	.4308-01	-9999.
245000	070	250	-71.2	.2380+00	.4105-01	-9999.
246000	077	254	-73.9	.2270+00	.3929-01	-9999.
247000	084	257	-75.0	.2150+00	.3780-01	-9999.
248000	091	260	-77.1	.2040+00	.3625-01	-9999.
249000	096	263	-77.9	.1940+00	.3462-01	-9999.

TABLE 6. (Continued)

ALTITUDE (FT.)	WIND SPEED (IFT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M ³)	DEW POINT (DEG C)
250000	103	26.5	-79.2	.1840-01	.3304-01	-9999.
251000	109	26.7	-80.7	.1750-01	.3167-01	-9999.
252000	114	26.9	-81.2	.1660-01	.3013-01	-9999.
253000	121	27.0	-82.2	.1570-01	.2864-01	-9999.
254000	126	27.2	-83.2	.1490-01	.2732-01	-9999.
255000	131	27.3	-83.8	.1410-01	.2594-01	-9999.
256000	136	27.5	-86.2	.1340-01	.2496-01	-9999.
257000	140	27.6	-87.8	.1270-01	.2387-01	-9999.
258000	143	27.7	-89.5	.1200-01	.2277-01	-9999.
259000	148	27.8	-91.9	.1140-01	.2191-01	-9999.
260000	152	27.9	-93.7	.1080-01	.2096-01	-9999.
261000	155	28.0	-94.2	.1020-01	.1985-01	-9999.
262000	157	28.1	-94.6	.9600-02	.1873-01	-9999.
263000	158	28.1	-94.2	.9100-02	.1771-01	-9999.
264000	-	158	-92.6	.8600-02	.1659-01	-9999.
265000	158	28.3	-91.3	.8100-02	.1552-01	-9999.
266000	158	28.4	-90.5	.7700-02	.1459-01	-9999.
267000	155	28.5	-90.2	.7300-02	.1390-01	-9999.
268000	153	28.6	-90.6	.6900-02	.1317-01	-9999.
269000	152	28.6	-92.1	.6500-02	.1251-01	-9999.
270000	148	28.7	-92.6	.6100-02	.1177-01	-9999.
271000	146	28.7	-94.2	.5800-02	.1129-01	-9999.
272000	143	28.7	-96.7	.5500-02	.1086-01	-9999.
273000	140	28.8	-98.2	.5200-02	.1035-01	-9999.
274000	136	28.8	-99.7	.4900-02	.9843-02	-9999.
275000	129	28.8	-98.8	.4704-02	.9450-02	-9999.
276000	122	28.9	-97.9	.4517-02	.9073-02	-9999.
277000	114	28.8	-97.0	.4336-02	.8711-02	-9999.
278000	107	28.8	-96.1	.4163-02	.8363-02	-9999.
279000	100	28.8	-95.2	.3997-02	.8030-02	-9999.
280000	93	28.8	-94.3	.3838-02	.7702-02	-9999.
281000	86	28.8	-93.4	.3685-02	.7402-02	-9999.
282000	78	28.8	-92.5	.3537-02	.7106-02	-9999.
283000	71	28.8	-91.6	.3396-02	.6923-02	-9999.
284000	64	28.8	-90.7	.3261-02	.6550-02	-9999.
285000	67	28.9	-89.8	.3131-02	.6289-02	-9999.
286000	60	28.9	-88.9	.3006-02	.6039-02	-9999.
287000	62	28.9	-87.9	.2886-02	.5797-02	-9999.
288000	65	29.0	-87.0	.2771-02	.5556-02	-9999.
289000	C28	29.1	-86.1	.2660-02	.5343-02	-9999.
290000	036	28.9	-86.5	.2262-02	.4220-02	-9999.
295000	045	27.9	-86.9	.1920-02	.3590-02	-9999.
296000	089	27.3	-84.2	.1670-02	.3060-02	-9999.
300000	140	27.1	-62.7	.1420-02	.2560-02	-9999.
301000	193	27.1	-81.3	.1210-02	.2182-02	-9999.
307000	291	27.0	-79.6	.1030-02	.1840-02	-9999.
310000	276	27.0	-78.3	.8720-03	.1550-02	-9999.
313000	292	26.9	-76.9	.7510-03	.1320-02	-9999.
316000	303	26.9	-75.6	.6440-02	.1120-02	-9999.
319000	328	26.9	-74.2	.5520-03	.9470-03	-9999.

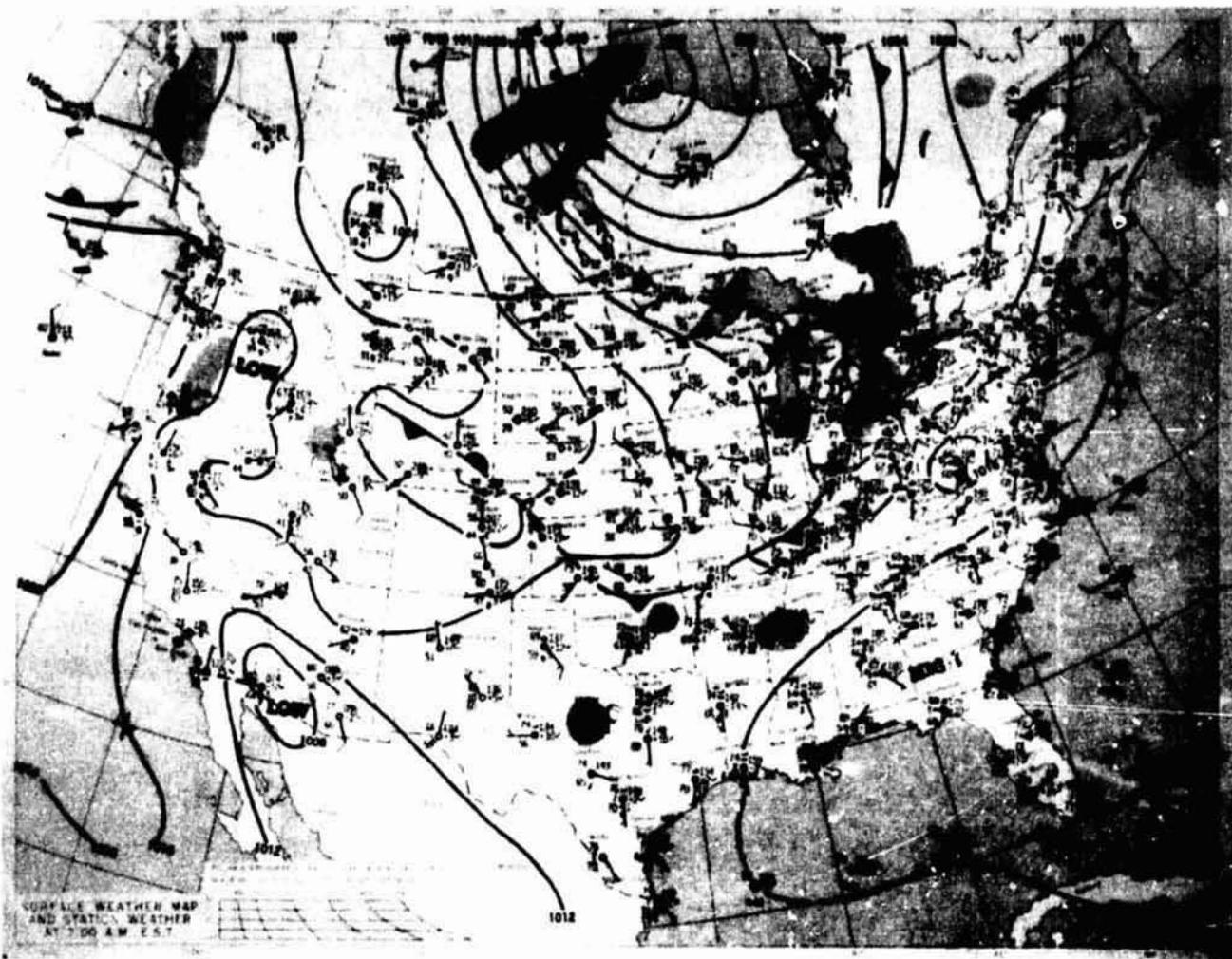
TABLE 6. (Concluded)

ALTITUDE (FT.)	WIND SPEED (FT/SEC)	WIND DIRECTION (DEG)	TEMPERATURE (DEG C)	PRESSURE (MILLIBARS)	DENSITY (GRAM/M3)	DEW POINT (DEG C)
322000	2.05	26.9	-72.9	.9730-03	.8040-03	-9999.
325000	2.92	26.9	-71.5	.4050-03	.6820-03	-9999.
328000	2.64	26.9	-70.2	.3470-03	.5790-03	-9999.
331000	2.70	26.9	-67.5	.2990-03	.4900-03	-9999.
334000	2.72	26.9	-64.8	.2570-03	.4150-03	-9999.
337000	2.66	26.9	-62.0	.2210-03	.3520-03	-9999.
340000	2.69	26.8	-59.3	.1950-03	.2980-03	-9999.
343000	2.18	26.8	-56.6	.1640-03	.2520-03	-9999.
346000	1.96	26.8	-52.5	.1420-03	.2140-03	-9999.
349000	1.95	26.7	-47.2	.1250-03	.1830-03	-9999.
352000	1.87	26.7	-41.9	.1090-03	.1560-03	-9999.
355000	1.71	26.5	-36.5	.9530-04	.1330-03	-9999.
358000	1.48	26.1	-31.2	.8330-04	.1110-03	-9999.
361000	1.03	26.4	-25.8	.7290-04	.9650-04	-9999.
364000	0.99	26.1	-19.1	.6540-04	.8180-04	-9999.
367000	0.92	25.7	-10.4	.5860-04	.7270-04	-9999.
370000	0.81	25.1	-2.8	.5250-04	.6310-04	-9999.
373000	0.67	24.0	4.9	.4700-04	.5470-04	-9999.
376000	0.52	21.7	12.6	.4210-04	.4750-04	-9999.
379000	0.29	21.5	21.0	.3800-04	.4150-04	-9999.
382000	0.10	20.9	30.2	.3460-04	.3660-04	-9999.
385000	0.32	20.4	39.6	.3160-04	.3230-04	-9999.
388000	0.14	20.0	49.3	.2900-04	.2860-04	-9999.
391000	0.37	19.6	59.3	.2660-04	.2550-04	-9999.
394000	0.60	19.2	69.4	.2460-04	.2270-04	-9999.
397000	0.43	18.9	79.7	.2270-04	.2030-04	-9999.
400000	0.67	18.6	90.1	.2100-04	.1820-04	-9999.

TABLE 7. STS-41D SRB DESCENT-IMPACT SURFACE SHIP OBSERVATIONS

Site:	U.S.N. Ship Redstone				
Location:	28° 45' Latitude 78° 07' Longitude				
Date:	August 30, 1984				
Time:	1248 UT				
Surface Observation:					
Air Temp °F	Wet-Bulk °F	Dew Point °F	Pressure (MSL) mb	Wind Direction	Wind Speed Kt.
81.9	74.1	71*	1018.8	150°	8*
Sky Observation:					
Clouds	Total Sky Cover	Opaque Sky	Total Visibility (miles)		
3/10 Cumulus > 1000 ft	8/10*	6/10*	7		
4/10 Towering CU at 1000 ft					
2/10 Altocumulus at 6500 ft					
Sea Observation:					
Sea Condition:	Wind Waves:	Swell Conditions:			
	Freq. Sec.	Ht. m.	Dir. from Which Swell is coming	Freq. Sec.	Ht. m.
Sea Smooth - Code 2					
0/10 Breaking Waves*	6	1	50°	6*	1*
0/10 Foam*					
Surface Sea Water Temp. = 82°F					

* Observation approximated from record, due to data transmission problems.

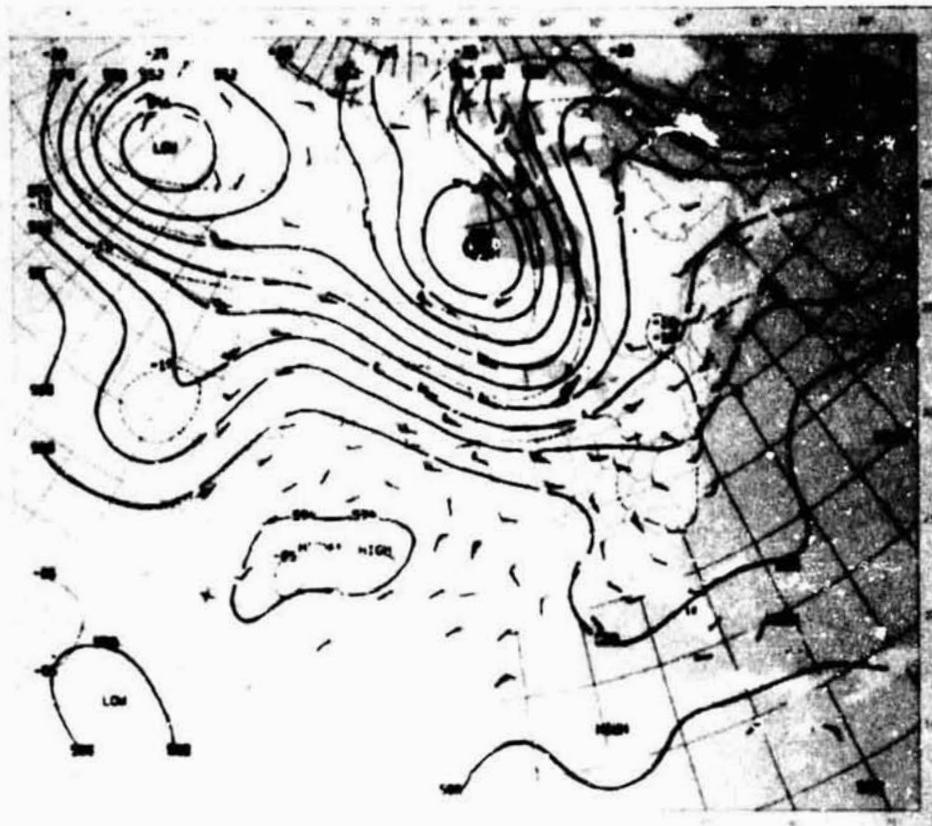


Surface Synoptic Map at 1200 UT August 30, 1984 – Isobaric, Frontal, and Precipitation Patterns are Shown in Standard Symbolic Form.

Figure 1. Surface synoptic chart 42 min before launch of STS-41D.

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OF POOR QUALITY



500 Millibar Height
Contours at 1200 UT
August 30, 1984
Continuous Lines Indicate Height Contours In
Feet Above Sea Level. Dashed Lines are
Isotherms In Degrees Centigrade. Arrows Show
Wind Direction and Speed at the 500 MB Level.

Figure 2. 500 mb map 42 min prior to launch of STS-41D.

CLOUD PHOTOGRAPH NOT AVAILABLE

Figure 3. GOES-5 infrared imagery of cloud cover at launch of STS-41D (1230 UT, August 30, 1984). 500-mb contours and wind barbs are also included for 1200 UT.

CLOUD PHOTOGRAPH NOT AVAILABLE

Figure 4. Enlarged view of GOES-5 visible imagery of cloud cover at launch of STS-41D (1230 UT, August 30, 1984). Surface temperatures and wind barbs for 1300 UT are also included.

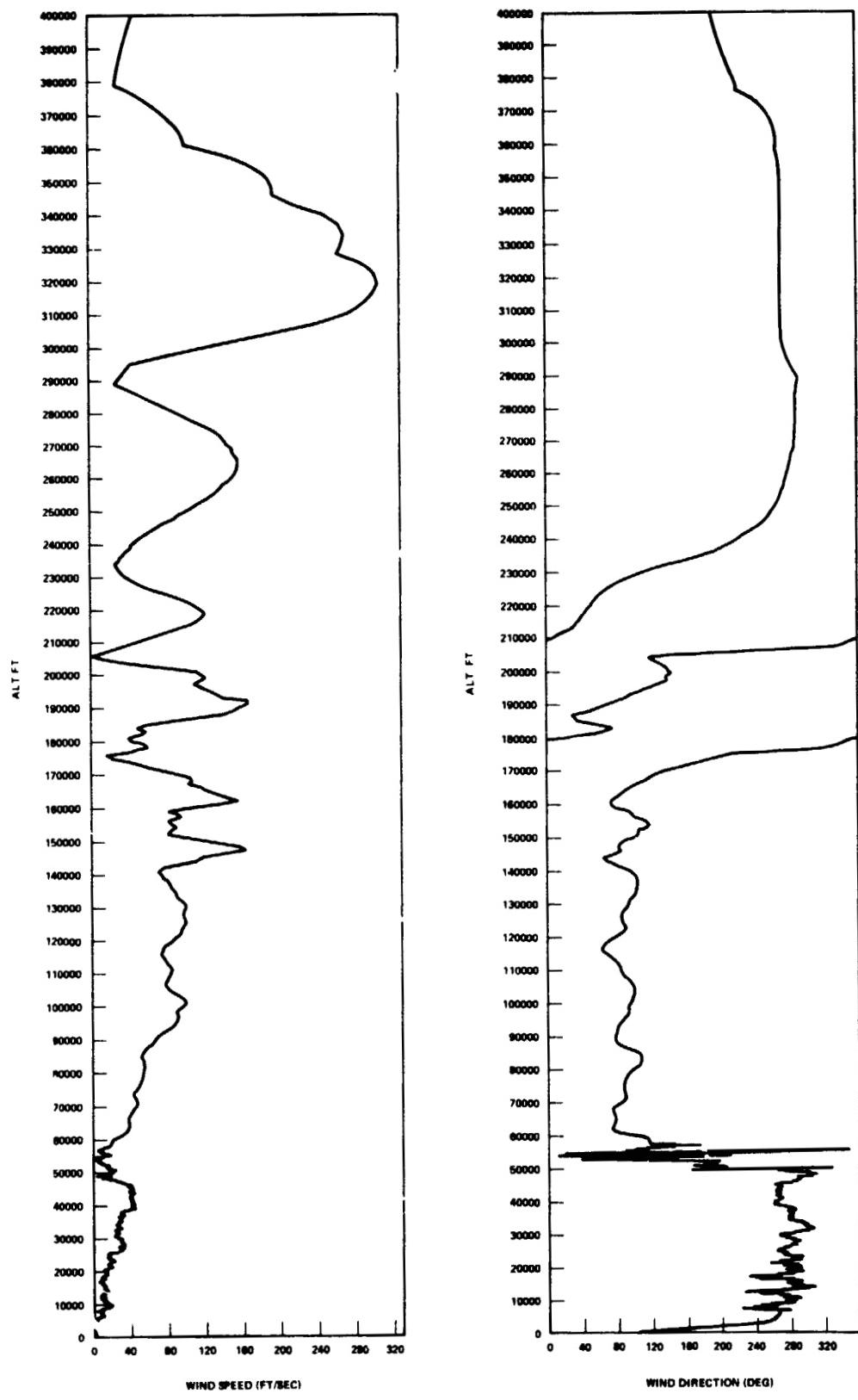


Figure 5. Scalar wind speed and direction at launch time of STS-41D.

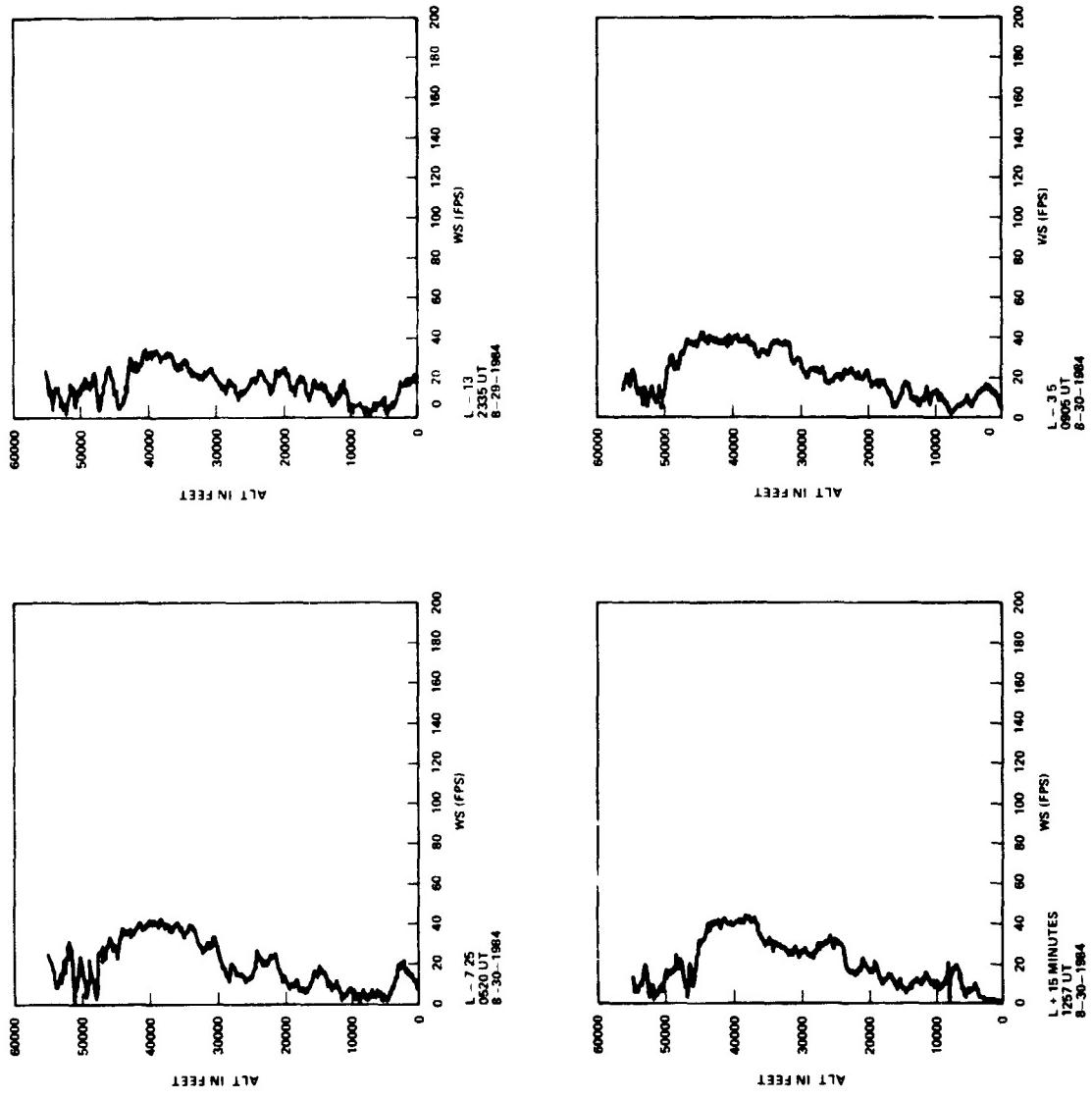


Figure 6. STS-41D prelaunch/launch Jimsphere-measured wind speeds (FPS).

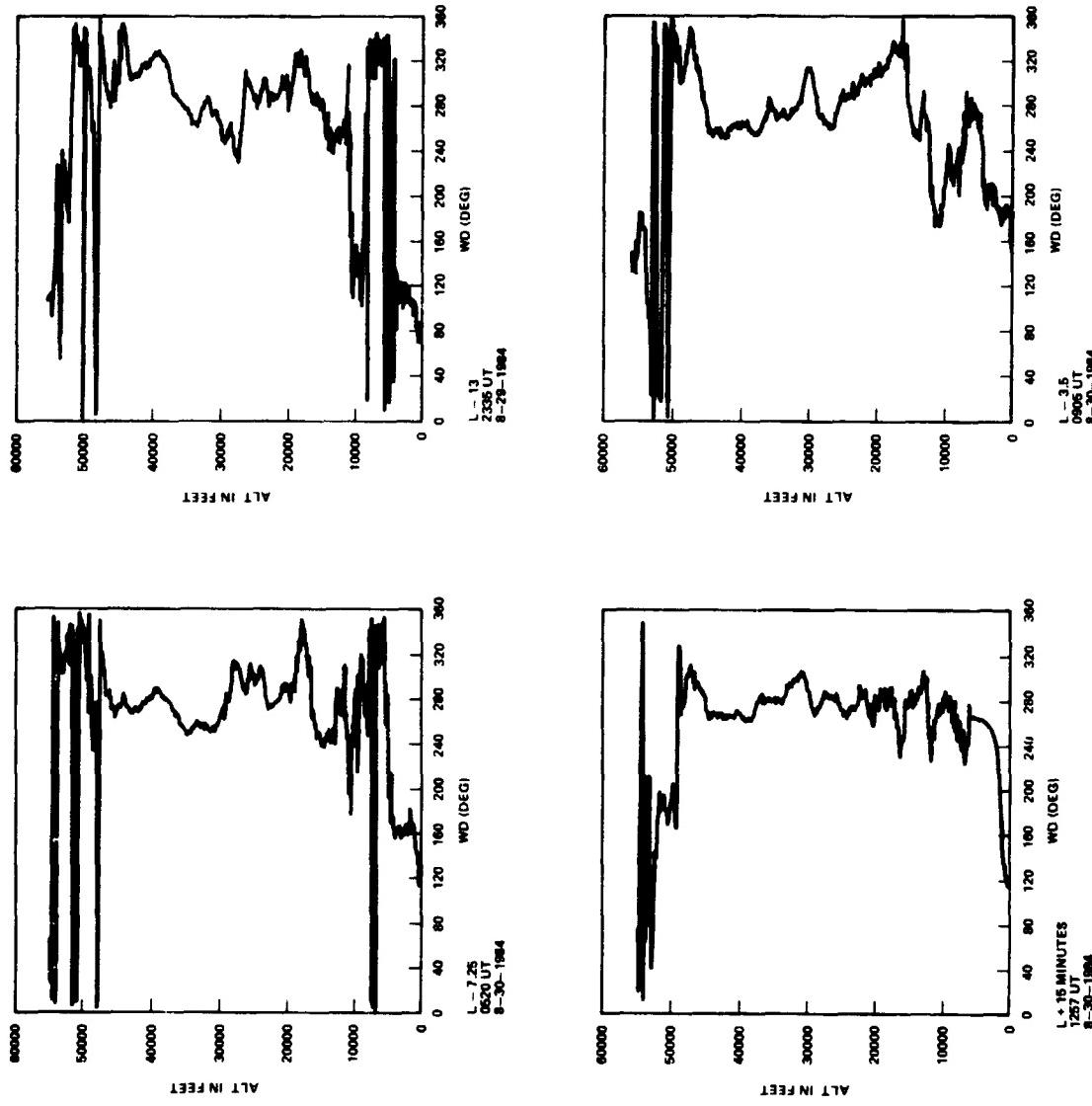


Figure 7. STS-41D prelaunch/launch Jimsphere-measured wind directions (degrees).

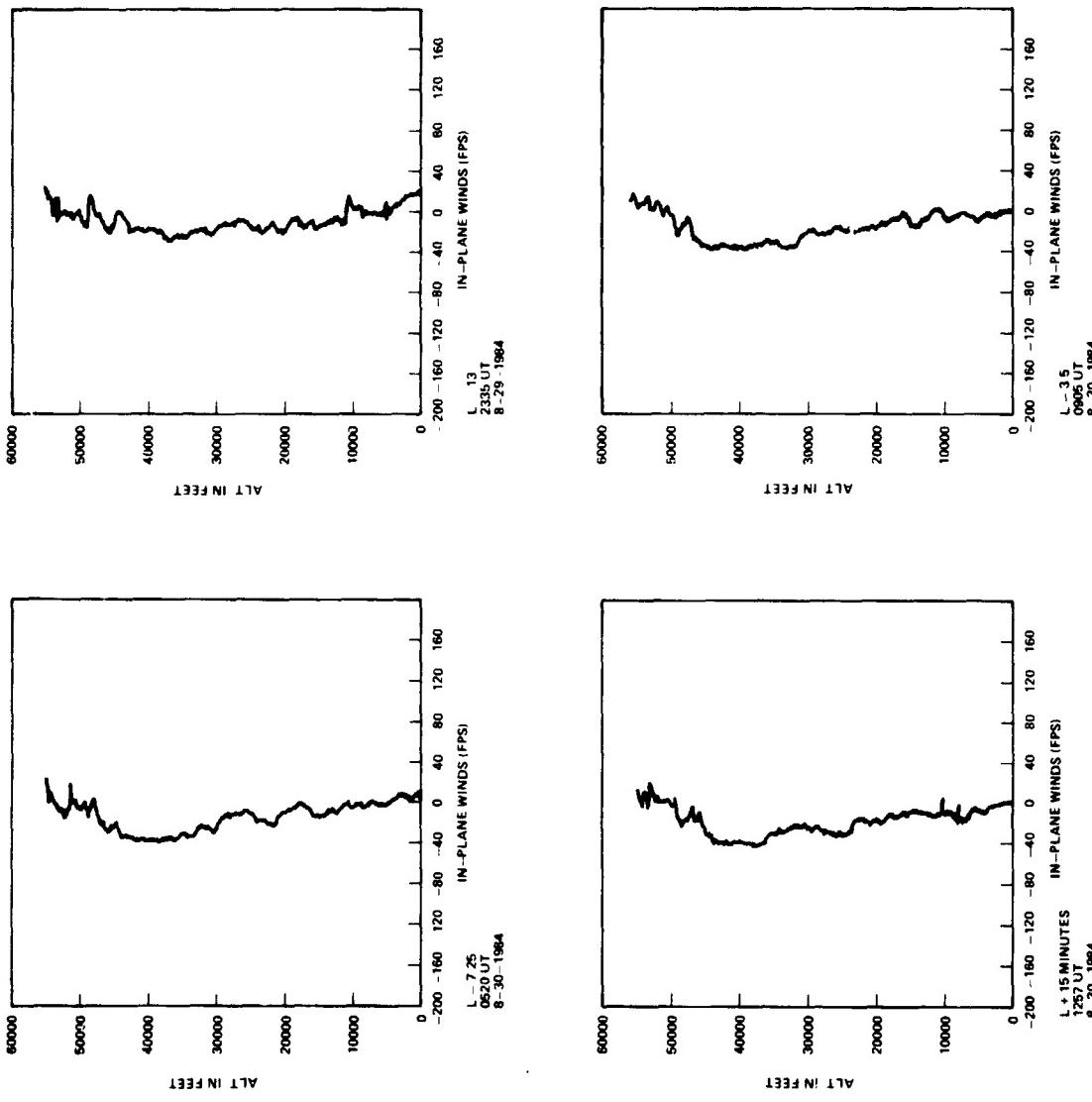


Figure 8. STS-41D prelaunch/launch Jimosphere-measured in-plane component winds (FPS).
Flight azimuth = 92 degrees.

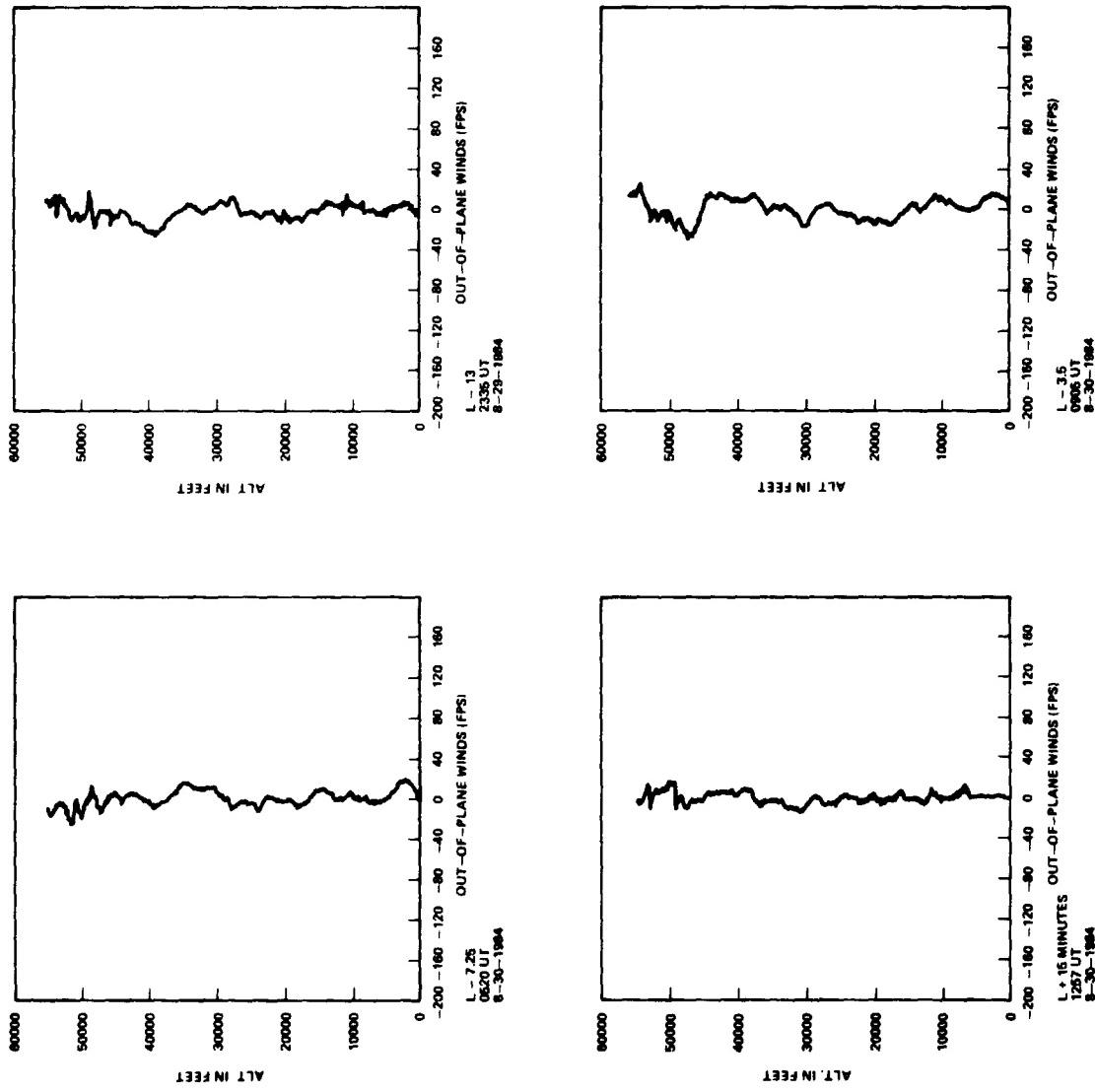


Figure 9. STS-41D prelaunch/launch Jimosphere-measured out-of-plane component winds (FPS).
Flight azimuth = 92 degrees.

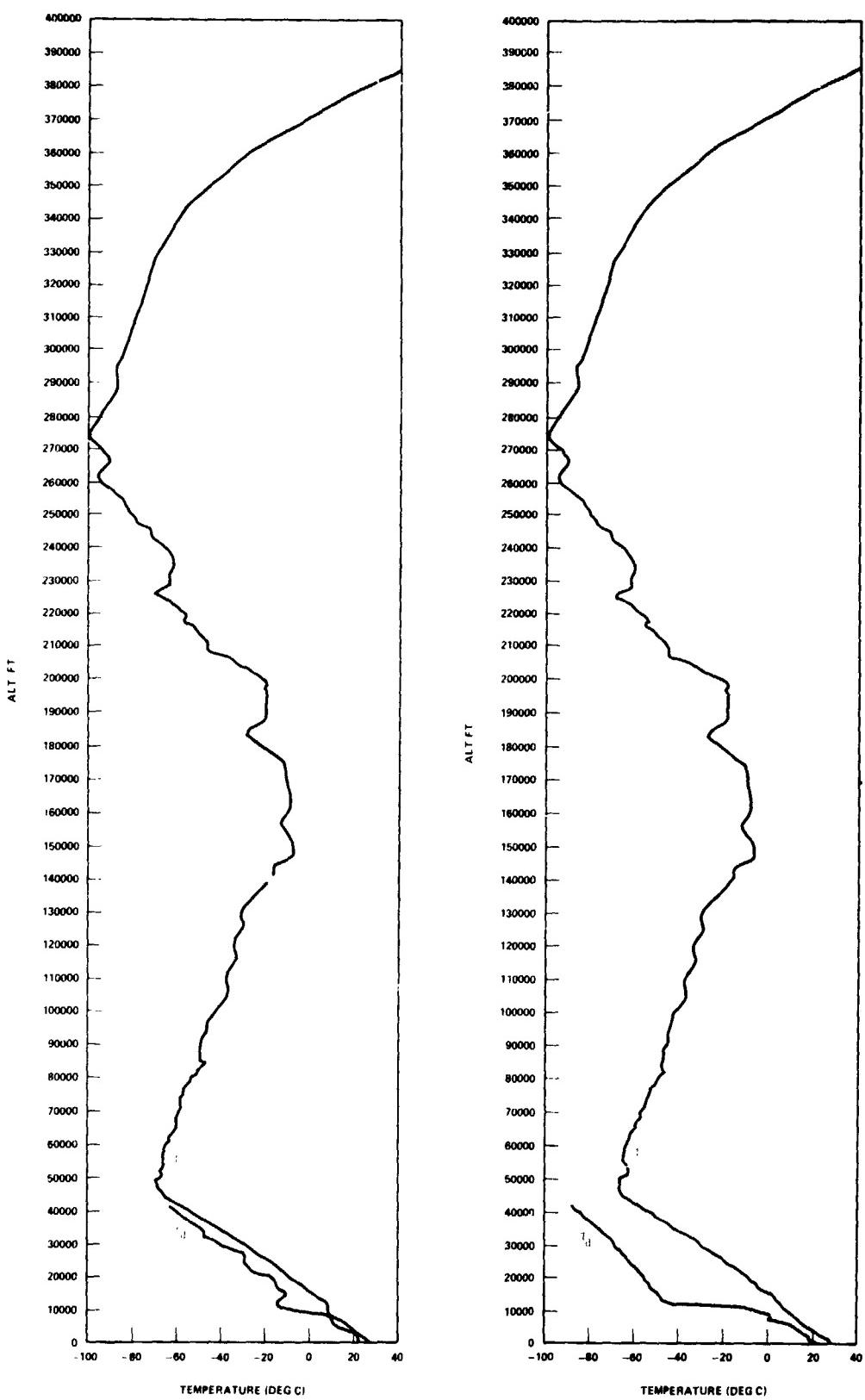


Figure 10. STS-41D temperature profiles versus altitude for launch (left) and SRB descent (right).

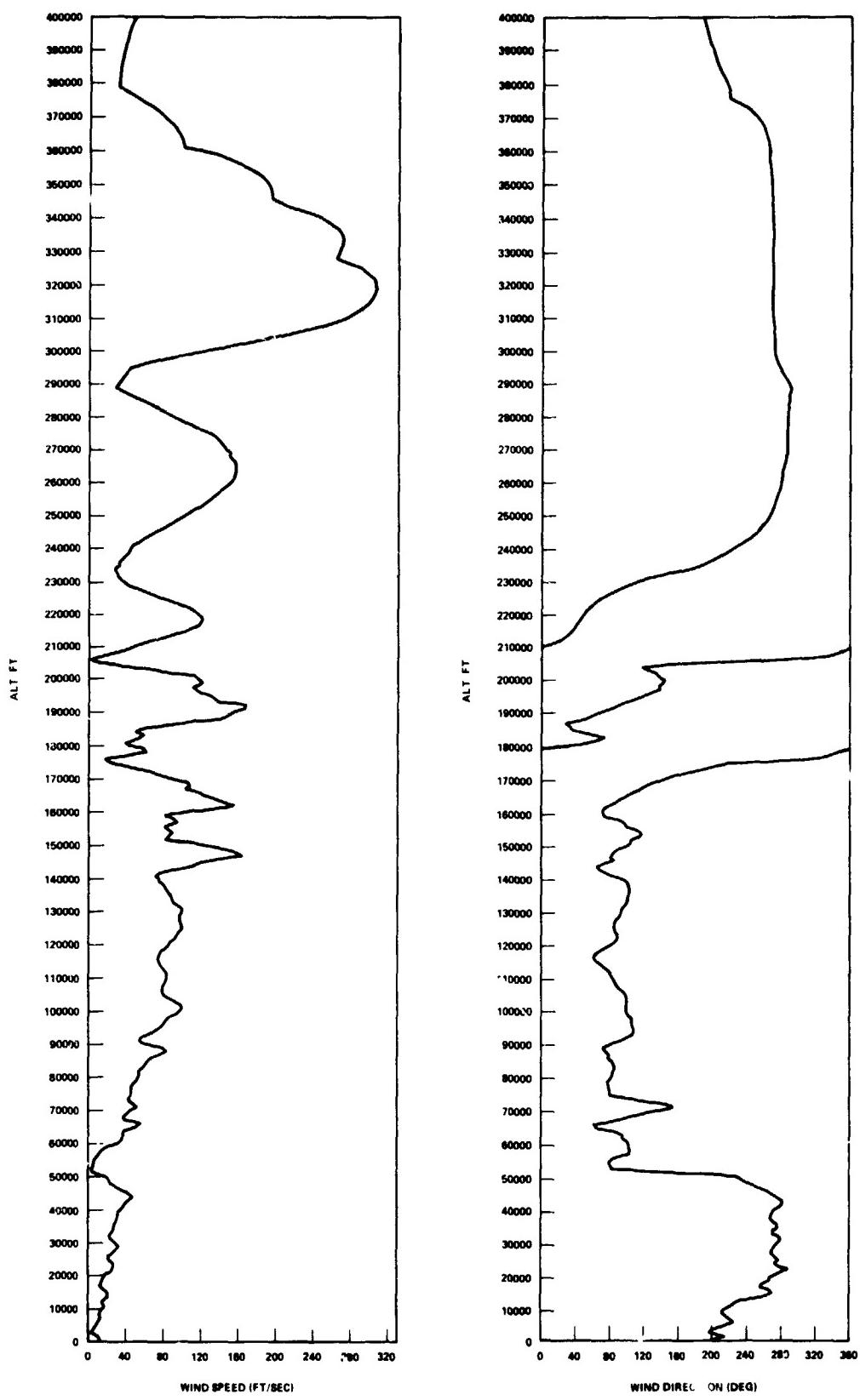


Figure 11. STS-41D scalar wind speed and direction for SRB descent.

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